Base isolation
Energy Balance Assessment of Base-Isolated Structures. — Mark A. Austin and Wane-Jang Lin; 130(3), 347-58 (2004).
Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).

Bayesian analysis
Two-Stage Structural Health Monitoring Approach for Phase I Benchmark Studies. — Ka-Veng Yuen, Siu Kui Au, and James L. Beck; 130(1), 16-33 (2004).
Application of a Statistical Model Updating Approach on Phase I of the IASC-ASCE Structural Health Monitoring Benchmark Study. — H. F. Lam, L. S. Katafygiotis, and N. C. Mickleborough; 130(1), 34-48 (2004).
Model Selection Using Response Measurements: Bayesian Probabilistic Approach. — James L. Beck and Ka-Veng Yuen; 130(2), 192-203 (2004).

Beam columns
Large Deflection Stability of Slender Beam-Columns with Semirigid Connections: Elastica Approach. — J. Darío Aristizábal-Ochoa; 130(3), 274-82 (2004).

Beams
An Integral Equation for Damage Identification of Euler-Bernoulli Beams under Static Loads. — Mario Di Paola and Cristiano Bilello; 130(2), 225-34 (2004).
Large Deflection Stability of Slender Beam-Columns with Semirigid Connections: Elastica Approach. — J. Darío Aristizábal-Ochoa; 130(3), 274-82 (2004).
Wave Propagation and Mode Localization in Simply Supported Multispan Beams with Couplers on Supports. — Dong-Ok Kim, Byoung-Wan Kim, Jong-Heon Lee, and In-Won Lee; 130(7), 747-52 (2004).
Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).
Recurrent Single Delaminated Beam Model for Vibration Analysis of Multidelaminated Beams. — Taehyo Park, Sunghee Lee, and George Z. Voyiadjis; 130(9), 1072-82 (2004).
Identification of Cracking in Beam Structures Using Timoshenko and Euler Formulations. — A. S. J. Swamidas, X. Yang, and R. Seshadri; 130(11), 1297-308 (2004).

Bearing capacity
Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).

Bench marks
Phase I IASC-ASCE Structural Health Monitoring Benchmark Problem Using Simulated Data. — E. A. Johnson, H. F. Lam, L. S. Katafygiotis, and J. L. Beck; 130(1), 3-15 (2004).
Two-Stage Structural Health Monitoring Approach for Phase I Benchmark Studies. — Ka-Veng Yuen, Siu Kui Au, and James L. Beck; 130(1), 16-33 (2004).
Application of a Statistical Model Updating Approach on Phase I of the IASC-ASCE Structural Health Monitoring Benchmark Study. — H. F. Lam, L. S. Katafygiotis, and N. C. Mickleborough; 130(1), 34-48 (2004).
Natural Excitation Technique and Eigensystem Realization Algorithm for Phase I of the IASC-ASCE Benchmark Problem: Simulated Data. — Juan Martin Caicedo, Shirley J. Dyke, and Erik A. Johnson; 130(1), 49-60 (2004).
Flexibility Based Approach for Damage Characterization: Benchmark Application. — Dionisio Bernal and Burcu Gunes; 130(1), 61-70 (2004).
Investigation of a System Identification Methodology in the Context of the ASCE Benchmark Problem. — Hilmi Luş, Raimondo Betti, Jun Yu, and Maurizio De Angelis; 130(1), 71-84 (2004).
Hilbert-Huang Based Approach for Structural Damage Detection. — J. N. Yang, Y. Lei, S. Lin, and N. Huang; 130(1), 85-95 (2004).
Damage Detection Utilizing the Damage Index Method to a Benchmark Structure. — Luciana R. Barroso and Ramses Rodriguez; 130(2), 142-51 (2004).
Benchmark Control Problems for Seismically Excited Nonlinear Buildings. — Y. Ohtori, R. E. Christenson, B. F. Spencer, Jr., and S. J. Dyke; 130(4), 366-85 (2004).
Seismic Control of a Nonlinear Benchmark Building Using Smart Dampers. — Osamu Yoshida and Shirley J. Dyke; 130(4), 386-92 (2004).
Application of a Genetic Algorithm for Optimal Damper Distribution within the Nonlinear Seismic Benchmark Building. — N. Wongprasert and M. D. Symans; 130(4), 401-6 (2004).
Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).
Control Effect for 20-Story Benchmark Building Using Passive or Semiactive Device. — Akira Fukukita, Tomoo Saito, and Keiji Shiba; 130(4), 430-6 (2004).
Benchmark Problem for Response Control of Wind-Excited Tall Buildings. — Jann N. Yang, Anil K. Agrawal, Bijan Samali, and Jong-Cheng Wu; 130(4), 437-46 (2004).
Wind Tunnel Tests for Wind-Excited Benchmark Building. — B. Samali, K. C. S. Kwok, G. S. Wood, and J. N. Yang; 130(4), 447-50 (2004).
Model Predictive Control of Wind-Excited Building: Benchmark Study. — Gang Mei, Ahsan Kareem, and Jeffrey C. Kantor; 130(4), 459-65 (2004).
Generalized Linear Quadratic Gaussian Techniques for the Wind Benchmark Problem. — K. D. Pham, G. Jin, M. K. Sain, B. F. Spencer, Jr., and S. R. Liberty; 130(4), 466-70 (2004).
Linear Multiobjective Control Strategies for Wind-Excited Buildings. — Jann N. Yang, Silian Lin, and Faryar Jabbari; 130(4), 471-7 (2004).
Vibration Control of the Wind-Excited 76-Story Benchmark Building by Liquid Column Vibration Absorbers. — B. Samali, E. Mayol, K. C. S. Kwok, A. Mack, and P. Hitchcock; 130(4), 478-85 (2004).
Modified Sliding Mode Control for Wind-Excited Benchmark Problem. — Jong-Cheng Wu and Jann N. Yang; 130(4), 499-504 (2004).
Linear Quadratic Gaussian-Alpha Control with Relative Stability and Gain Parameter for the Structural Benchmark Problems. — Sheng-Guo Wang; 130(4), 511-7 (2004).
Study on Sinusoidal Reference Strategy-Based Adaptive Feedforward Control Applied to Benchmark Wind-Excited Building. — Fujun Peng, Ming Gu, and Hans-Jürgen Niemann; 130(4), 518-23 (2004).

Bending
Degradation and Buckling of I-Beams under Cyclic Pure Bending. — Shengjun Yin, Edmundo Corona, and Mark S. Ellison; 130(7), 809-17 (2004).

Bending moments
Glass Fiber Reinforced Polymer Pultruded Members: Constitutive Model and Stability Analysis. — Antonella Cecchi and Roberto Di Marco; 130(8), 961-70 (2004).

Bilinear analysis
Dimensional Analysis of Rigid-Plastic and Elastoplastic Structures under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1006-18 (2004).
Dimensional Analysis of Bilinear Oscillators under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1019-31 (2004).
Evaluation of Peak Ground Velocity as a "Good" Intensity Measure for Near-Source Ground Motions. — Nicos Makris and Cameron J. Black; 130(9), 1032-44 (2004).

Blast loads
Numerical Investigation of Effects of Water Saturation on Blast Wave Propagation in Soil Mass. — Zhongqi Wang, Yong Lu, and Hong Hao; 130(5), 551-61 (2004).
Modeling Concrete Masonry Walls Subjected to Explosive Loads. — Christopher D. Eamon, James T. Baylot, and James L. O'Daniel; 130(9), 1098-106 (2004).

Bonding
Investigation of Bond between Fiber Reinforced Polymer and Concrete Undergoing Global Mixed Mode I/II Loading. — Baolin Wan, Michael A. Sutton, Michael F. Petrou, Kent A. Harries, and Ning Li; 130(12), 1467-75 (2004).

Boundary conditions
Partitioned Distinct Element Method Simulation of Granular Flow within Industrial Silos. — D. R. Parisi, S. Masson, and J. Martinez; 130(7), 771-9 (2004).
Plane Turbulent Wall Jets on Rough Boundaries with Limited Tailwater. — S. A. Ead and N. Rajaratnam; 130(10), 1245-50 (2004).

Boundary layers
Postbuckling of Axially Loaded Functionally Graded Cylindrical Panels with Piezoelectric Actuators in Thermal Environments. — Hui-Shen Shen and K. M. Liew; 130(8), 982-95 (2004).

Bracing
Column Stability and Minimum Lateral Bracing: Effects of Shear Deformations. — J. Darío Aristizábal-Ochoa; 130(10), 1223-32 (2004).

Bridge decks
Estimation of Aeroelastic Parameters of Bridge Decks Using Neural Networks. — Sungmoon Jung, Jamshid Ghaboussi, and Soon-Duck Kwon; 130(11), 1356-64 (2004).

Bridges
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).

Parameter Estimation for Multiple-Input Multiple-Output Modal Analysis of Large Structures. — F. Necati Catbas, David L. Brown, and A. Emin Aktan; 130(8), 921-30 (2004).

Bridges, cable-stayed

Geometrically Nonlinear Buffeting Response of a Cable-Stayed Bridge. — Ho-Kyung Kim, Masanobu Shinozuka, and Sung-Pil Chang; 130(7), 848-57 (2004).

Brittleness

Adaptive Resolution of Localized Damage in Quasi-brittle Materials. — Bořek Patzák and Milan Jirásek; 130(6), 720-32 (2004).

Damage Modeling of Saturated Rocks in Drained and Undrained Conditions. — J. F. Shao, Y. F. Lu, and D. Lydzba; 130(6), 733-40 (2004).

Buckling

Plastic Buckling of Simply Supported, Polygonal Mindlin Plates. — C. M. Wang; 130(1), 117-22 (2004).

Buckling of Elastic Shallow Arches Using the Theory of a Cosserat Point. — M. B. Rubin; 130(2), 216-24 (2004).

Stability of Composite and Sandwich Struts by Mixed Formulation. — J. B. Dafedar and Y. M. Desai; 130(7), 762-70 (2004).

Degradation and Buckling of I-Beams under Cyclic Pure Bending. — Shengjun Yin, Edmundo Corona, and Mark S. Ellison; 130(7), 809-17 (2004).

Postbuckling of Axially Loaded Functionally Graded Cylindrical Panels with Piezoelectric Actuators in Thermal Environments. — Hui-Shen Shen and K. M. Liew; 130(8), 982-95 (2004).

Column Stability and Minimum Lateral Bracing: Effects of Shear Deformations. — J. Darío Aristizábal-Ochoa; 130(10), 1223-32 (2004).

Buckling of a Weakened Column. — C. Y. Wang, C. M. Wang, and Tun Myint Aung; 130(11), 1373-6 (2004).

Buffeting

Geometrically Nonlinear Buffeting Response of a Cable-Stayed Bridge. — Ho-Kyung Kim, Masanobu Shinozuka, and Sung-Pil Chang; 130(7), 848-57 (2004).

Building codes

Column Stability and Minimum Lateral Bracing: Effects of Shear Deformations. — J. Darío Aristizábal-Ochoa; 130(10), 1223-32 (2004).

Building frames

Nonlinear System Identification of Reinforced Concrete Steel Structure: Using Pseudodynamic Testing Data. — Olga V. Pavlenko and Chin-Hsiung Loh; 130(7), 836-47 (2004).

Buildings

Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).

Vibration Control of Wind-Excited Tall Buildings Using Sliding Mode Fuzzy Control. — Saang Bum Kim, Chung-Bang Yun, and B. F. Spencer, Jr.; 130(4), 505-10 (2004).

Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. I: Source Model. — Lincy Pyl, Geert Degrande, Geert Lombaert, and Wim Haegeman; 130(12), 1377-93 (2004).

Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. II: Receiver Model. — Lincy Pyl, Geert Degrande, and Didier Clouteau; 130(12), 1394-406 (2004).

Buildings, high-rise

Benchmark Problem for Response Control of Wind-Excited Tall Buildings. — Jann N. Yang, Anil K. Agrawal, Bijan Samali, and Jong-Cheng Wu; 130(4), 437-46 (2004).

Wind Tunnel Tests for Wind-Excited Benchmark Building. — B. Samali, K. C. S. Kwok, G. S. Wood, and J. N. Yang; 130(4), 447-50 (2004).

Wind Response Control of Building with Variable Stiffness Tuned Mass Damper Using Empirical Mode Decomposition/Hilbert Transform. — Nadathur Varadarajan and Satish Nagarajaiah; 130(4), 451-8 (2004).

Model Predictive Control of Wind-Excited Building: Benchmark Study. — Gang Mei, Ahsan Kareem, and Jeffrey C. Kantor; 130(4), 459-65 (2004).

Generalized Linear Quadratic Gaussian Techniques for the Wind Benchmark Problem. — K. D. Pham, G. Jin, M. K. Sain, B. F. Spencer, Jr., and S. R. Liberty; 130(4), 466-70 (2004).

Controlling Wind Response through a Fuzzy Controller. — M. Battaini, F. Casciati, and L. Faravelli; 130(4), 486-91 (2004).

Active Control of Cross Wind Response of 76-Story Tall Building Using a Fuzzy Controller. — Bijan Samali, Mohammed Al-Dawod, Kenny C. S. Kwok, and Fazel Naghdy; 130(4), 492-8 (2004).

Study on Sinusoidal Reference Strategy-Based Adaptive Feedforward Control Applied to Benchmark Wind-Excited Building. — Fujun Peng, Ming Gu, and Hans-Jürgen Niemann; 130(4), 518-23 (2004).

Multiobjective Optimal Fuzzy Logic Control System for Response Control of Wind-Excited Tall Buildings. — A. S. Ahlawat and A. Ramaswamy; 130(4), 524-30 (2004).

Identification of Natural Frequencies and Dampings of In Situ Tall Buildings Using Ambient Wind Vibration Data. — Jann N. Yang, Ying Lei, Silian Lin, and Norden Huang; 130(5), 570-7 (2004).

Buildings, multistory

Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).

California

Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).

Classification

Fault Classification Using Pseudomodal Energies and Probabilistic Neural Networks. — Tshilidzi Marwala; 130(11), 1346-55 (2004).

Clays

Characterization of Failure in Cross-Anisotropic Soils. — Andrei V. Abelev and Poul V. Lade; 130(5), 599-606 (2004).

Experimental Inspiration for Kinematic Hardening Soil Models. — David Muir Wood; 130(6), 656-64 (2004).

Collapse

Degradation and Buckling of I-Beams under Cyclic Pure Bending. — Shengjun Yin, Edmundo Corona, and Mark S. Ellison; 130(7), 809-17 (2004).

Columns

Glass Fiber Reinforced Polymer Pultruded Members: Constitutive Model and Stability Analysis. — Antonella Cecchi and Roberto Di Marco; 130(8), 961-70 (2004).

Column Stability and Minimum Lateral Bracing: Effects of Shear Deformations. — J. Darío Aristizábal-Ochoa; 130(10), 1223-32 (2004).

Buckling of a Weakened Column. — C. Y. Wang, C. M. Wang, and Tun Myint Aung; 130(11), 1373-6 (2004).

Compaction

Conditions for Compaction Band Formation in Porous Rock Using a Two-Yield Surface Model. — Vennela Challa and Kathleen A. Issen; 130(9), 1089-97 (2004).

Composite materials

Asymptotic Approach for Thermoelastic Analysis of Laminated Composite Plates. — Wenbin Yu and Dewey H. Hodges; 130(5), 531-40 (2004).

Stability of Composite and Sandwich Struts by Mixed Formulation. — J. B. Dafedar and Y. M. Desai; 130(7), 762-70 (2004).

Thermal Postbuckling of Laminated Composite Plates with Temperature Dependent Properties. — K. K. Shukla, J. H. Huang, and Y. Nath; 130(7), 818-25 (2004).

Natural Vibrations of Laminated and Sandwich Plates. — M. K. Rao, K. Scherbatiuk, Y. M. Desai, and A. H. Shah; 130(11), 1268-78 (2004).

High-Order Analysis of Reinforced Concrete Slabs Strengthened with Circular Composite Laminated Patches of General Layup. — Oded Rabinovitch and Yeoshua Frostig; 130(11), 1334-45 (2004).

Delamination Effects in Reinforced Concrete Slabs Strengthened with Circular Composite Patches. — O. Rabinovitch and Y. Frostig; 130(12), 1436-46 (2004).

Composite structures

Moving Least-Squares Differential Quadrature Method for Free Vibration of Antisymmetric Laminates. — Q. S. Li and Y. Q. Huang; 130(12), 1447-57 (2004).

Compression

Effects of Prescribed End Motion on the Dynamic Stability of a Shallow Arch on an Elastic Foundation. — Jen-San Chen and Jian-San Lin; 130(3), 359-62 (2004).

Modeling Masonry Shear-Compression: Role of Dilatancy Highlighted. — Gideon P. A. G. van Zijl; 130(11), 1289-96 (2004).

Computation

Time Integration in Discontinuous Deformation Analysis. — David M. Doolin and Nicholas Sitar; 130(3), 249-58 (2004).

Energy Balance Assessment of Base-Isolated Structures. — Mark A. Austin and Wane-Jang Lin; 130(3), 347-58 (2004).

Computational fluid dynamics technique

Vibration Control of the Wind-Excited 76-Story Benchmark Building by Liquid Column Vibration Absorbers. — B. Samali, E. Mayol, K. C. S. Kwok, A. Mack, and P. Hitchcock; 130(4), 478-85 (2004).

Accuracy Order of Crank–Nicolson Discretization for Hydrostatic Free-Surface Flow. — Ben R. Hodges; 130(8), 904-10 (2004).

Concrete

Temperature Effect on Concrete Creep Modeled by Microprestress-Solidification Theory. — Zdeněk P. Bažant, Gianluca Cusatis, and Luigi Cedolin; 130(6), 691-9 (2004).

Identification and Validation of a Discrete Element Model for Concrete. — Sébastien Hentz, Laurent Daudeville, and Frédéric V. Donzé; 130(6), 709-19 (2004).

Dynamic Strength Criterion for Concrete. — Adam Stolarski; 130(12), 1428-35 (2004).

Concrete Subjected to Triaxial Stress States: Application to Pull-Out Analyses. — Peter Pivonka, Roman Lackner, and Herbert A. Mang; 130(12), 1486-98 (2004).

Concrete blocks

Modeling Concrete Masonry Walls Subjected to Explosive Loads. — Christopher D. Eamon, James T. Baylot, and James L. O'Daniel; 130(9), 1098-106 (2004).

Concrete masonry

Modeling Concrete Masonry Walls Subjected to Explosive Loads. — Christopher D. Eamon, James T. Baylot, and James L. O'Daniel; 130(9), 1098-106 (2004).

Concrete slabs

High-Order Analysis of Reinforced Concrete Slabs Strengthened with Circular Composite Laminated Patches of General Layup. — Oded Rabinovitch and Yeoshua Frostig; 130(11), 1334-45 (2004).

Concrete structures

Microwave Subsurface Imaging Technology for Damage Detection. — Yoo Jin Kim, Luis Jofre, Franco De Flaviis, and Maria Q. Feng; 130(7), 858-66 (2004).

Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).

Modeling Concrete Masonry Walls Subjected to Explosive Loads. — Christopher D. Eamon, James T. Baylot, and James L. O'Daniel; 130(9), 1098-106 (2004).

Concrete, reinforced

Reliability of Uncertain Inelastic Structures under Earthquake Excitation. — Paolo Franchin; 130(2), 180-91 (2004).

Probabilistic Approach to Predict Cracking in Lightly Reinforced Microconcrete Panels. — Ana Rita C. da Silva, Sergio P. B. Proença, René Billardon, and François Hild; 130(8), 931-41 (2004).

Delamination Effects in Reinforced Concrete Slabs Strengthened with Circular Composite Patches. — O. Rabinovitch and Y. Frostig; 130(12), 1436-46 (2004).

Connections, semirigid

Large Deflection Stability of Slender Beam-Columns with Semirigid Connections: Elastica Approach. — J. Darío Aristizábal-Ochoa; 130(3), 274-82 (2004).

Constitutive models

Constitutive Model of High-Damping Rubber Materials. — Junji Yoshida, Masato Abe, and Yozo Fujino; 130(2), 129-41 (2004).

Glass Fiber Reinforced Polymer Pultruded Members: Constitutive Model and Stability Analysis. — Antonella Cecchi and Roberto Di Marco; 130(8), 961-70 (2004).

Conditions for Compaction Band Formation in Porous Rock Using a Two-Yield Surface Model. — Vennela Challa and Kathleen A. Issen; 130(9), 1089-97 (2004).

Modeling Masonry Shear-Compression: Role of Dilatancy Highlighted. — Gideon P. A. G. van Zijl; 130(11), 1289-96 (2004).

Sand Plasticity Model Accounting for Inherent Fabric Anisotropy. — Yannis F. Dafalias, Achilleas G. Papadimitriou, and Xiang S. Li; 130(11), 1319-33 (2004).

Concrete Subjected to Triaxial Stress States: Application to Pull-Out Analyses. — Peter Pivonka, Roman Lackner, and Herbert A. Mang; 130(12), 1486-98 (2004).

Constitutive relations

Simple Plasticity Sand Model Accounting for Fabric Change Effects. — Yannis F. Dafalias and Majid T. Manzari; 130(6), 622-34 (2004).

Stress Dilatancy and Fabric Dependencies on Sand Behavior. — Richard G. Wan and Pei J. Guo; 130(6), 635-45 (2004).

Hysteresis of Capillary Stress in Unsaturated Granular Soil. — William J. Likos and Ning Lu; 130(6), 646-55 (2004).

Sliding and Rolling Constitutive Theory for Granular Materials. — A. Anandarajah; 130(6), 665-80 (2004).

Continuum Damage Approach to Asphalt Concrete Fatigue Modeling. — Didier Bodin, Gilles Pijaudier-Cabot, Chantal de La Roche, Jean-Michel Piau, and Armelle Chabot; 130(6), 700-8 (2004).

Numerical Assessment of the Influence of End Conditions on Constitutive Behavior of Geomaterials. — Boris Jeremić, Zhaohui Yang, and Stein Sture; 130(6), 741-5 (2004).

High-Order Analysis of Reinforced Concrete Slabs Strengthened with Circular Composite Laminated Patches of General Layup. — Oded Rabinovitch and Yeoshua Frostig; 130(11), 1334-45 (2004).

Instability and Static Liquefaction on Proportional Strain Paths for Sand at Low Stresses. — Laurent Lancelot, Isam Shahrour, and Marwan Al Mahmoud; 130(11), 1365-72 (2004).

Dynamic Strength Criterion for Concrete. — Adam Stolarski; 130(12), 1428-35 (2004).

Contrasts

Alternative Definition of Particle Rolling in a Granular Assembly. — Matthew R. Kuhn and Katalin Bagi; 130(7), 826-35 (2004).

Control methods

Control Effect for 20-Story Benchmark Building Using Passive or Semiactive Device. — Akira Fukukita, Tomoo Saito, and Keiji Shiba; 130(4), 430-6 (2004).

Control systems

Benchmark Problem for Response Control of Wind-Excited Tall Buildings. — Jann N. Yang, Anil K. Agrawal, Bijan Samali, and Jong-Cheng Wu; 130(4), 437-46 (2004).

Linear Quadratic Gaussian-Alpha Control with Relative Stability and Gain Parameter for the Structural Benchmark Problems. — Sheng-Guo Wang; 130(4), 511-7 (2004).

Coupling

Wave Propagation and Mode Localization in Simply Supported Multispan Beams with Couplers on Supports. — Dong-Ok Kim, Byoung-Wan Kim, Jong-Heon Lee, and In-Won Lee; 130(7), 747-52 (2004).

Cracking

Continuum Damage Approach to Asphalt Concrete Fatigue Modeling. — Didier Bodin, Gilles Pijaudier-Cabot, Chantal de La Roche, Jean-Michel Piau, and Armelle Chabot; 130(6), 700-8 (2004).

Adaptive Resolution of Localized Damage in Quasi-brittle Materials. — Bořek Patzák and Milan Jirásek; 130(6), 720-32 (2004).

Probabilistic Approach to Predict Cracking in Lightly Reinforced Microconcrete Panels. — Ana Rita C. da Silva, Sergio P. B. Proença, René Billardon, and François Hild; 130(8), 931-41 (2004).

Identification of Cracking in Beam Structures Using Timoshenko and Euler Formulations. — A. S. J. Swamidas, X. Yang, and R. Seshadri; 130(11), 1297-308 (2004).

Investigation of Bond between Fiber Reinforced Polymer and Concrete Undergoing Global Mixed Mode I/II Loading. — Baolin Wan, Michael A. Sutton, Michael F. Petrou, Kent A. Harries, and Ning Li; 130(12), 1467-75 (2004).

Creep

Description of Creep in Inherently Anisotropic Frictional Materials. — S. Pietruszczak, D. Lydzba, and J. F. Shao; 130(6), 681-90 (2004).

Temperature Effect on Concrete Creep Modeled by Microprestress-Solidification Theory. — Zdeněk P. Bažant, Gianluca Cusatis, and Luigi Cedolin; 130(6), 691-9 (2004).

Cyclic loads

Degradation and Buckling of I-Beams under Cyclic Pure Bending. — Shengjun Yin, Edmundo Corona, and Mark S. Ellison; 130(7), 809-17 (2004).

Cylindrical shells

Fault Classification Using Pseudomodal Energies and Probabilistic Neural Networks. — Tshilidzi Marwala; 130(11), 1346-55 (2004).

Damage

Separation of Scales in Fracture Mechanics: From Molecular to Continuum Theory via Γ Convergence. — M. S. Gelli and G. F. Royer-Carfagni; 130(2), 204-15 (2004).

An Integral Equation for Damage Identification of Euler-Bernoulli Beams under Static Loads. — Mario Di Paola and Cristiano Bilello; 130(2), 225-34 (2004).

Continuum Damage Approach to Asphalt Concrete Fatigue Modeling. — Didier Bodin, Gilles Pijaudier-Cabot, Chantal de La Roche, Jean-Michel Piau, and Armelle Chabot; 130(6), 700-8 (2004).

Adaptive Resolution of Localized Damage in Quasi-brittle Materials. — Bořek Patzák and Milan Jirásek; 130(6), 720-32 (2004).

Damage Modeling of Saturated Rocks in Drained and Undrained Conditions. — J. F. Shao, Y. F. Lu, and D. Lydzba; 130(6), 733-40 (2004).

Parameter Estimation for Multiple-Input Multiple-Output Modal Analysis of Large Structures. — F. Necati Catbas, David L. Brown, and A. Emin Aktan; 130(8), 921-30 (2004).

Experimentally Validated Added Mass Identification Algorithm Based on Frequency Response Functions. — Paul J. Fanning and E. Peter Carden; 130(9), 1045-51 (2004).
Recurrent Single Delaminated Beam Model for Vibration Analysis of Multidelaminated Beams. — Taehyo Park, Sunghee Lee, and George Z. Voyiadjis; 130(9), 1072-82 (2004).

Damage assessment

Phase I IASC-ASCE Structural Health Monitoring Benchmark Problem Using Simulated Data. — E. A. Johnson, H. F. Lam, L. S. Katafygiotis, and J. L. Beck; 130(1), 3-15 (2004).
Two-Stage Structural Health Monitoring Approach for Phase I Benchmark Studies. — Ka-Veng Yuen, Siu Kui Au, and James L. Beck; 130(1), 16-33 (2004).
Application of a Statistical Model Updating Approach on Phase I of the IASC-ASCE Structural Health Monitoring Benchmark Study. — H. F. Lam, L. S. Katafygiotis, and N. C. Mickleborough; 130(1), 34-48 (2004).
Natural Excitation Technique and Eigensystem Realization Algorithm for Phase I of the IASC-ASCE Benchmark Problem: Simulated Data. — Juan Martin Caicedo, Shirley J. Dyke, and Erik A. Johnson; 130(1), 49-60 (2004).
Flexibility Based Approach for Damage Characterization: Benchmark Application. — Dionisio Bernal and Burcu Gunes; 130(1), 61-70 (2004).
Investigation of a System Identification Methodology in the Context of the ASCE Benchmark Problem. — Hilmi Luş, Raimondo Betti, Jun Yu, and Maurizio De Angelis; 130(1), 71-84 (2004).
Hilbert-Huang Based Approach for Structural Damage Detection. — J. N. Yang, Y. Lei, S. Lin, and N. Huang; 130(1), 85-95 (2004).
Application of Wavelet Approach for ASCE Structural Health Monitoring Benchmark Studies. — Adriana Hera and Zhikun Hou; 130(1), 96-104 (2004).
Damage Detection Utilizing the Damage Index Method to a Benchmark Structure. — Luciana R. Barroso and Ramses Rodriguez; 130(2), 142-51 (2004).
Microwave Subsurface Imaging Technology for Damage Detection. — Yoo Jin Kim, Luis Jofre, Franco De Flaviis, and Maria Q. Feng; 130(7), 858-66 (2004).
Element Level System Identification with Unknown Input with Rayleigh Damping. — Xiaolin Ling and Achintya Haldar; 130(8), 877-85 (2004).
Structural Damage Detection Using Empirical Mode Decomposition: Experimental Investigation. — Y. L. Xu and J. Chen; 130(11), 1279-88 (2004).

Damping

Constitutive Model of High-Damping Rubber Materials. — Junji Yoshida, Masato Abe, and Yozo Fujino; 130(2), 129-41 (2004).
Exploring the Use of Three-Dimensional Dispersion to Damp Building Vibrations. — Keith MacBain and William R. Spillers; 130(3), 312-9 (2004).
Seismic Control of a Nonlinear Benchmark Building Using Smart Dampers. — Osamu Yoshida and Shirley J. Dyke; 130(4), 386-92 (2004).
Semiactive Control of the 20-Story Benchmark Building with Piezoelectric Friction Dampers. — Genda Chen and Chaoqiang Chen; 130(4), 393-400 (2004).
Application of a Genetic Algorithm for Optimal Damper Distribution within the Nonlinear Seismic Benchmark Building. — N. Wongprasert and M. D. Symans; 130(4), 401-6 (2004).
Control Effect for 20-Story Benchmark Building Using Passive or Semiactive Device. — Akira Fukukita, Tomoo Saito, and Keiji Shiba; 130(4), 430-6 (2004).
Benchmark Problem for Response Control of Wind-Excited Tall Buildings. — Jann N. Yang, Anil K. Agrawal, Bijan Samali, and Jong-Cheng Wu; 130(4), 437-46 (2004).
Wind Response Control of Building with Variable Stiffness Tuned Mass Damper Using Empirical Mode Decomposition/Hilbert Transform. — Nadathur Varadarajan and Satish Nagarajaiah; 130(4), 451-8 (2004).
Vibration Control of the Wind-Excited 76-Story Benchmark Building by Liquid Column Vibration Absorbers. — B. Samali, E. Mayol, K. C. S. Kwok, A. Mack, and P. Hitchcock; 130(4), 478-85 (2004).
Active Control of Cross Wind Response of 76-Story Tall Building Using a Fuzzy Controller. — Bijan Samali, Mohammed Al-Dawod, Kenny C. S. Kwok, and Fazel Naghdy; 130(4), 492-8 (2004).
Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).
Element Level System Identification with Unknown Input with Rayleigh Damping. — Xiaolin Ling and Achintya Haldar; 130(8), 877-85 (2004).
Dynamic Modeling of Large-Scale Magnetorheological Damper Systems for Civil Engineering Applications. — Guangqiang Yang, Billie F. Spencer, Jr., Hyung-Jo Jung, and J. David Carlson; 130(9), 1107-14 (2004).

Damping ratio

Identification of Natural Frequencies and Dampings of In Situ Tall Buildings Using Ambient Wind Vibration Data. — Jann N. Yang, Ying Lei, Silian Lin, and Norden Huang; 130(5), 570-7 (2004).

Data analysis

Phase I IASC-ASCE Structural Health Monitoring Benchmark Problem Using Simulated Data. — E. A. Johnson, H. F. Lam, L. S. Katafygiotis, and J. L. Beck; 130(1), 3-15 (2004).
Natural Excitation Technique and Eigensystem Realization Algorithm for Phase I of the IASC-ASCE Benchmark Problem: Simulated Data. — Juan Martin Caicedo, Shirley J. Dyke, and Erik A. Johnson; 130(1), 49-60 (2004).
Hilbert-Huang Based Approach for Structural Damage Detection. — J. N. Yang, Y. Lei, S. Lin, and N. Huang; 130(1), 85-95 (2004).
Identification of Natural Frequencies and Dampings of In Situ Tall Buildings Using Ambient Wind Vibration Data. — Jann N. Yang, Ying Lei, Silian Lin, and Norden Huang; 130(5), 570-7 (2004).
Identification of the Soil–Structure Interaction System Using Earthquake Response Data. — Jun-Seong Choi, Jong-Seh Lee, and Chung-Bang Yun; 130(7), 753-61 (2004).
Nonlinear System Identification of Reinforced Concrete Steel Structure: Using Pseudodynamic Testing Data. — Olga V. Pavlenko and Chin-Hsiung Loh; 130(7), 836-47 (2004).
Structural Damage Detection Using Empirical Mode Decomposition: Experimental Investigation. — Y. L. Xu and J. Chen; 130(11), 1279-88 (2004).

Decomposition

Structural Damage Detection Using Empirical Mode Decomposition: Experimental Investigation. — Y. L. Xu and J. Chen; 130(11), 1279-88 (2004).

Defects

Use of *M* Integral for Rubbery Material Problems Containing Multiple Defects. — Jui-Hung Chang and Deh-Jun Peng; 130(5), 589-98 (2004).
Element Level System Identification with Unknown Input with Rayleigh Damping. — Xiaolin Ling and Achintya Haldar; 130(8), 877-85 (2004).

Deflection

Large Deflection Stability of Slender Beam-Columns with Semirigid Connections: Elastica Approach. — J. Darío Aristizábal-Ochoa; 130(3), 274-82 (2004).

Deformation

Alternative Definition of Particle Rolling in a Granular Assembly. — Matthew R. Kuhn and Katalin Bagi; 130(7), 826-35 (2004).
Flow Variation of Duckbill Valve Jet in Relation to Large Elastic Deformation. — Joseph H. W. Lee, S. H. Lo, and K. L. Lee; 130(8), 971-81 (2004).

Deformation analysis

Time Integration in Discontinuous Deformation Analysis. — David M. Doolin and Nicholas Sitar; 130(3), 249-58 (2004).

Delaminating

Recurrent Single Delaminated Beam Model for Vibration Analysis of Multidelaminated Beams. — Taehyo Park, Sunghee Lee, and George Z. Voyiadjis; 130(9), 1072-82 (2004).

Dewatering

Hysteresis of Capillary Stress in Unsaturated Granular Soil. — William J. Likos and Ning Lu; 130(6), 646-55 (2004).

Differential equations

Moving Least-Squares Differential Quadrature Method for Free Vibration of Antisymmetric Laminates. — Q. S. Li and Y. Q. Huang; 130(12), 1447-57 (2004).

Digital techniques

Investigation of Bond between Fiber Reinforced Polymer and Concrete Undergoing Global Mixed Mode I/II Loading. — Baolin Wan, Michael A. Sutton, Michael F. Petrou, Kent A. Harries, and Ning Li; 130(12), 1467-75 (2004).

Dilatancy

Stress Dilatancy and Fabric Dependencies on Sand Behavior. — Richard G. Wan and Pei J. Guo; 130(6), 635-45 (2004).
Modeling Masonry Shear-Compression: Role of Dilatancy Highlighted. — Gideon P. A. G. van Zijl; 130(11), 1289-96 (2004).
Sand Plasticity Model Accounting for Inherent

Fabric Anisotropy. — Yannis F. Dafalias, Achilleas G. Papadimitriou, and Xiang S. Li; 130(11), 1319-33 (2004).

Dimensional analysis

Dimensional Analysis of Rigid-Plastic and Elastoplastic Structures under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1006-18 (2004).

Dimensional Analysis of Bilinear Oscillators under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1019-31 (2004).

Evaluation of Peak Ground Velocity as a "Good" Intensity Measure for Near-Source Ground Motions. — Nicos Makris and Cameron J. Black; 130(9), 1032-44 (2004).

Discrete elements

Time Integration in Discontinuous Deformation Analysis. — David M. Doolin and Nicholas Sitar; 130(3), 249-58 (2004).

Modeling Failure and Deformation of an Assembly of Spheres with Frictional Contacts. — Akke S. J. Suiker and Ching S. Chang; 130(3), 283-93 (2004).

Identification and Validation of a Discrete Element Model for Concrete. — Sébastien Hentz, Laurent Daudeville, and Frédéric V. Donzé; 130(6), 709-19 (2004).

Partitioned Distinct Element Method Simulation of Granular Flow within Industrial Silos. — D. R. Parisi, S. Masson, and J. Martinez; 130(7), 771-9 (2004).

Drag

Least-Squares, Moment-Based, and Hybrid Polynomializations of Drag Forces. — Chih Young Liaw and Xiang Yuan Zheng; 130(3), 294-302 (2004).

Drainage

Damage Modeling of Saturated Rocks in Drained and Undrained Conditions. — J. F. Shao, Y. F. Lu, and D. Lydzba; 130(6), 733-40 (2004).

Dynamic analysis

Least-Squares, Moment-Based, and Hybrid Polynomializations of Drag Forces. — Chih Young Liaw and Xiang Yuan Zheng; 130(3), 294-302 (2004).

Dynamic Analysis of a Gate–Fluid System. — Farhang Daneshmand, Shailendra K. Sharan, and Mohammad H. Kadivar; 130(12), 1458-66 (2004).

Dynamic characteristics

Modal Scaling from Known Mass Perturbations. — Dionisio Bernal; 130(9), 1083-8 (2004).

Dynamic loads

Identification and Validation of a Discrete Element Model for Concrete. — Sébastien Hentz, Laurent Daudeville, and Frédéric V. Donzé; 130(6), 709-19 (2004).

Dynamic Modeling of Large-Scale Magnetorheological Damper Systems for Civil Engineering Applications. — Guangqiang Yang, Billie F. Spencer, Jr., Hyung-Jo Jung, and J. David Carlson; 130(9), 1107-14 (2004).

Dynamic models

Dynamic Modeling of Large-Scale Magnetorheological Damper Systems for Civil Engineering Applications. — Guangqiang Yang, Billie F. Spencer, Jr., Hyung-Jo Jung, and J. David Carlson; 130(9), 1107-14 (2004).

Dynamic Strength Criterion for Concrete. — Adam Stolarski; 130(12), 1428-35 (2004).

Dynamic response

Identification of Cracking in Beam Structures Using Timoshenko and Euler Formulations. — A. S. J. Swamidas, X. Yang, and R. Seshadri; 130(11), 1297-308 (2004).

Dynamic tests

Dynamic Strength Criterion for Concrete. — Adam Stolarski; 130(12), 1428-35 (2004).

Dynamics

Parameter Estimation for Multiple-Input Multiple-Output Modal Analysis of Large Structures. — F. Necati Catbas, David L. Brown, and A. Emin Aktan; 130(8), 921-30 (2004).

Analytical Solution of Direct Dynamics Problem in Cylindrical Coordinates. — Yaşar Pala, İbrahim Güney, and Gültekin Karadere; 130(9), 1115-7 (2004).

Earthquake engineering

Exploring the Use of Three-Dimensional Dispersion to Damp Building Vibrations. — Keith MacBain and William R. Spillers; 130(3), 312-9 (2004).

Adaptive Feedback–Feedforward Control of Building Structures. — Tian-Wei Ma and Henry T. Y. Yang; 130(7), 786-93 (2004).

Dimensional Analysis of Rigid-Plastic and Elastoplastic Structures under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1006-18 (2004).

Dimensional Analysis of Bilinear Oscillators under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1019-31 (2004).

Evaluation of Peak Ground Velocity as a "Good" Intensity Measure for Near-Source Ground Motions. — Nicos Makris and Cameron J. Black; 130(9), 1032-44 (2004).

Earthquake loads

Reliability of Uncertain Inelastic Structures under Earthquake Excitation. — Paolo Franchin; 130(2), 180-91 (2004).

Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).

Earthquake resistant structures

Application of a Genetic Algorithm for Optimal Damper Distribution within the Nonlinear Seismic Benchmark Building. — N. Wongprasert and M. D. Symans; 130(4), 401-6 (2004).

Earthquakes

Damage Detection Utilizing the Damage Index Method to a Benchmark Structure. — Luciana R. Barroso and Ramses Rodriguez; 130(2), 142-51 (2004).

Robust Control for Structural Systems with Unstructured Uncertainties. — Sheng-Guo Wang, Paul N. Roschke, and H. Y. Yeh; 130(3), 337-46 (2004).

Model Predictive Control of Wind-Excited Building: Benchmark Study. — Gang Mei, Ahsan Kareem, and Jeffrey C. Kantor; 130(4), 459-65 (2004).

Linear Quadratic Gaussian-Alpha Control with Relative Stability and Gain Parameter for the Structural Benchmark Problems. — Sheng-Guo Wang; 130(4), 511-7 (2004).

Identification of the Soil–Structure Interaction System Using Earthquake Response Data. — Jun-Seong Choi, Jong-Seh Lee, and Chung-Bang Yun; 130(7), 753-61 (2004).

Description and Simulation of Nonstationary Processes Based on Hilbert Spectra. — Y. K. Wen and Ping Gu; 130(8), 942-51 (2004).

Evolutionary Spectra Estimation Using Wavelets. — Pol D. Spanos and Giuseppe Failla; 130(8), 952-60 (2004).

Elastic foundations

Effects of Prescribed End Motion on the Dynamic Stability of a Shallow Arch on an Elastic Foundation. — Jen-San Chen and Jian-San Lin; 130(3), 359-62 (2004).

Elasticity

Buckling of Elastic Shallow Arches Using the Theory of a Cosserat Point. — M. B. Rubin; 130(2), 216-24 (2004).

Flow Variation of Duckbill Valve Jet in Relation to Large Elastic Deformation. — Joseph H. W. Lee, S. H. Lo, and K. L. Lee; 130(8), 971-81 (2004).

Continuum Mechanics of Lateral Soil–Pile Interaction. — Farzad Abedzadeh and Ronald Y. S. Pak; 130(11), 1309-18 (2004).

Elastomer

Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).

Flow Variation of Duckbill Valve Jet in Relation to Large Elastic Deformation. — Joseph H. W. Lee, S. H. Lo, and K. L. Lee; 130(8), 971-81 (2004).

Elastoplasticity

Experimental Inspiration for Kinematic Hardening Soil Models. — David Muir Wood; 130(6), 656-64 (2004).

Numerical Assessment of the Influence of End Conditions on Constitutive Behavior of Geomaterials. — Boris Jeremić, Zhaohui Yang, and Stein Sture; 130(6), 741-5 (2004).

Dimensional Analysis of Rigid-Plastic and Elastoplastic Structures under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1006-18 (2004).

Embedment

Continuum Mechanics of Lateral Soil–Pile Interaction. — Farzad Abedzadeh and Ronald Y. S. Pak; 130(11), 1309-18 (2004).

Energy

Energy Balance Assessment of Base-Isolated Structures. — Mark A. Austin and Wane-Jang Lin; 130(3), 347-58 (2004).

Energy conservation

Energy Equation for Volatile Liquid Transport in Porous Media. — Lyle Prunty; 130(3), 259-66 (2004).

Energy dissipation

Application of a Genetic Algorithm for Optimal Damper Distribution within the Nonlinear Seismic Benchmark Building. — N. Wongprasert and M. D. Symans; 130(4), 401-6 (2004).

Frequency Response of Flag-Shaped Single Degree-of-Freedom Hysteretic Systems. — Constantin Christopoulos; 130(8), 894-903 (2004).

Plane Turbulent Wall Jets on Rough Boundaries with Limited Tailwater. — S. A. Ead and N. Rajaratnam; 130(10), 1245-50 (2004).

Energy loss

Fluid–Solid Interaction in Particle-Laden Flows. — Q. Q. Liu and V. P. Singh; 130(12), 1476-85 (2004).

Equations of motion
Weighted Averaged Flux-Type Scheme for Shallow-Water Equations with Fractional Step Method. — Dae-Hong Kim, Yong-Sik Cho, and Woo-Gu Kim; 130(2), 152-60 (2004).
Analytical Solution of Direct Dynamics Problem in Cylindrical Coordinates. — Yaşar Pala, İbrahim Güney, and Gültekin Karadere; 130(9), 1115-7 (2004).

Equations of state
Random Vibration of Systems with Viscoelastic Memory. — A. Palmeri, F. Ricciardelli, G. Muscolino, and A. De Luca; 130(9), 1052-61 (2004).

Errors
Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).

Estimation
Vibration Control of Wind-Excited Tall Buildings Using Sliding Mode Fuzzy Control. — Saang Bum Kim, Chung-Bang Yun, and B. F. Spencer, Jr.; 130(4), 505-10 (2004).
Identification of Cracking in Beam Structures Using Timoshenko and Euler Formulations. — A. S. J. Swamidas, X. Yang, and R. Seshadri; 130(11), 1297-308 (2004).

Excitation
Model Selection Using Response Measurements: Bayesian Probabilistic Approach. — James L. Beck and Ka-Veng Yuen; 130(2), 192-203 (2004).
Least-Squares, Moment-Based, and Hybrid Polynomializations of Drag Forces. — Chih Young Liaw and Xiang Yuan Zheng; 130(3), 294-302 (2004).
Scheduled Controllers for Buildings under Seismic Excitation with Limited Actuator Capacity. — Jin-Hoon Kim and F. Jabbari; 130(7), 800-8 (2004).

Experimental data
Stochastic Analysis of a Single-Degree-of-Freedom Nonlinear Experimental Moored System Using an Independent-Flow-Field Model. — H. Lin and S. C. S. Yim; 130(2), 161-9 (2004).

Explosions
Modeling Concrete Masonry Walls Subjected to Explosive Loads. — Christopher D. Eamon, James T. Baylot, and James L. O'Daniel; 130(9), 1098-106 (2004).

Fabrics
Simple Plasticity Sand Model Accounting for Fabric Change Effects. — Yannis F. Dafalias and Majid T. Manzari; 130(6), 622-34 (2004).
Stress Dilatancy and Fabric Dependencies on Sand Behavior. — Richard G. Wan and Pei J. Guo; 130(6), 635-45 (2004).
Sand Plasticity Model Accounting for Inherent Fabric Anisotropy. — Yannis F. Dafalias, Achilleas G. Papadimitriou, and Xiang S. Li; 130(11), 1319-33 (2004).

Failures
Slope Stability Analysis with Nonlinear Failure Criterion. — Xiao-Li Yang and Jian-Hua Yin; 130(3), 267-73 (2004).
Modeling Failure and Deformation of an Assembly of Spheres with Frictional Contacts. — Akke S. J. Suiker and Ching S. Chang; 130(3), 283-93 (2004).
Characterization of Failure in Cross-Anisotropic Soils. — Andrei V. Abelev and Poul V. Lade; 130(5), 599-606 (2004).

Fatigue
Continuum Damage Approach to Asphalt Concrete Fatigue Modeling. — Didier Bodin, Gilles Pijaudier-Cabot, Chantal de La Roche, Jean-Michel Piau, and Armelle Chabot; 130(6), 700-8 (2004).

Feedback control
Adaptive Feedback–Feedforward Control of Building Structures. — Tian-Wei Ma and Henry T. Y. Yang; 130(7), 786-93 (2004).

Fiber reinforced polymers
Investigation of Bond between Fiber Reinforced Polymer and Concrete Undergoing Global Mixed Mode I/II Loading. — Baolin Wan, Michael A. Sutton, Michael F. Petrou, Kent A. Harries, and Ning Li; 130(12), 1467-75 (2004).

Finite element method
Energy Balance Assessment of Base-Isolated Structures. — Mark A. Austin and Wane-Jang Lin; 130(3), 347-58 (2004).
Asymptotic Approach for Thermoelastic Analysis of Laminated Composite Plates. — Wenbin Yu and Dewey H. Hodges; 130(5), 531-40 (2004).
Modeling and Simulation of Porous Elastoviscoplastic Material. — Kevin K. Tseng; 130(5), 547-50 (2004).
Use of *M* Integral for Rubbery Material Problems Containing Multiple Defects. — Jui-Hung Chang and Deh-Jun Peng; 130(5), 589-98 (2004).
Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).
Rigid Finite Element Method for Upper Bound Limit Analysis of Soil Slopes Subjected to Pore Water Pressure. — Jian Chen, Jian-Hua Yin, and C. F. Lee; 130(8), 886-93 (2004).
Flow Variation of Duckbill Valve Jet in Relation to Large Elastic Deformation. — Joseph H. W. Lee, S. H. Lo, and K. L. Lee; 130(8), 971-81 (2004).
Modeling Concrete Masonry Walls Subjected to Explosive Loads. — Christopher D. Eamon, James T. Baylot, and James L. O'Daniel; 130(9), 1098-106 (2004).
Dynamic Analysis of a Gate–Fluid System. — Farhang Daneshmand, Shailendra K. Sharan, and Mohammad H. Kadivar; 130(12), 1458-66 (2004).

Finite elements
Reliability of Uncertain Inelastic Structures under Earthquake Excitation. — Paolo Franchin; 130(2), 180-91 (2004).
Finite-Element Analysis of Cylindrical Panels with Random Initial Imperfections. — Vissarion Papadopoulos and Manolis Papadrakakis; 130(8), 867-76 (2004).
Element Level System Identification with Unknown Input with Rayleigh Damping. — Xiaolin Ling and Achintya Haldar; 130(8), 877-85 (2004).
Analyzing Dynamic Behavior of Geosynthetic-Reinforced Soil Retaining Walls. — Hoe I. Ling, Huabei Liu, Victor N. Kaliakin, and Dov Leshchinsky; 130(8), 911-20 (2004).

Flexibility
Flexibility Based Approach for Damage Characterization: Benchmark Application. — Dionisio Bernal and Burcu Gunes; 130(1), 61-70 (2004).

Flexure
Continuum Mechanics of Lateral Soil–Pile Interaction. — Farzad Abedzadeh and Ronald Y. S. Pak; 130(11), 1309-18 (2004).

Flow resistance
Shallow Water Wave Propagation in Convectively Accelerating Open-Channel Flow Induced by the Tailwater Effect. — Christina W. Tsai and Ben C. Yen; 130(3), 320-36 (2004).

Fluid flow
Weighted Averaged Flux-Type Scheme for Shallow-Water Equations with Fractional Step Method. — Dae-Hong Kim, Yong-Sik Cho, and Woo-Gu Kim; 130(2), 152-60 (2004).
Experiments on Unsteady Turbulent Pipe Flow. — John P. Viola and Hans J. Leutheusser; 130(2), 240-4 (2004).

Fluid-structure interaction
Flow Variation of Duckbill Valve Jet in Relation to Large Elastic Deformation. — Joseph H. W. Lee, S. H. Lo, and K. L. Lee; 130(8), 971-81 (2004).

Flutter
Estimation of Aeroelastic Parameters of Bridge Decks Using Neural Networks. — Sungmoon Jung, Jamshid Ghaboussi, and Soon-Duck Kwon; 130(11), 1356-64 (2004).

Fluvial hydraulics
Sediment Threshold with Upward Seepage. — Subhasish Dey and Ulrich C. E. Zanke; 130(9), 1118-23 (2004).

Foundations
Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).

Fourier transform
Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).

Fracture mechanics
Separation of Scales in Fracture Mechanics: From Molecular to Continuum Theory via Γ Convergence. — M. S. Gelli and G. F. Royer-Carfagni; 130(2), 204-15 (2004).
Use of *M* Integral for Rubbery Material Problems Containing Multiple Defects. — Jui-Hung Chang and Deh-Jun Peng; 130(5), 589-98 (2004).
Probabilistic Model for Polycrystalline Microstructures with Application to Intergranular Fracture. — Sanjay R. Arwade and Mircea Grigoriu; 130(9), 997-1005 (2004).
Delamination Effects in Reinforced Concrete Slabs Strengthened with Circular Composite Patches. — O. Rabinovitch and Y. Frostig; 130(12), 1436-46 (2004).

Fractures
Identification of Cracking in Beam Structures Using Timoshenko and Euler Formulations. — A. S. J. Swamidas, X. Yang, and R. Seshadri; 130(11), 1297-308 (2004).

Frames
Column Stability and Minimum Lateral Bracing: Effects of Shear Deformations. — J. Darío Aristizábal-Ochoa; 130(10), 1223-32 (2004).

Free surfaces
Accuracy Order of Crank–Nicolson Discretization for Hydrostatic Free-Surface Flow. — Ben R. Hodges; 130(8), 904-10 (2004).

Frequency response
Frequency Response of Flag-Shaped Single Degree-of-Freedom Hysteretic Systems. — Constantin Christopoulos; 130(8), 894-903 (2004).
Experimentally Validated Added Mass Identification Algorithm Based on Frequency Response Functions. — Paul J. Fanning and E. Peter Carden; 130(9), 1045-51 (2004).

Friction
Semiactive Control of the 20-Story Benchmark Building with Piezoelectric Friction Dampers. — Genda Chen and Chaoqiang Chen; 130(4), 393-400 (2004).

Friction factor
Engineering Model of Dilute Pneumatic Conveying. — D. Eskin, Y. Leonenko, and O. Vinogradov; 130(7), 794-9 (2004).

Full-scale tests
Nonlinear System Identification of Reinforced Concrete Steel Structure: Using Pseudodynamic Testing Data. — Olga V. Pavlenko and Chin-Hsiung Loh; 130(7), 836-47 (2004).

Fuzzy sets
Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).
Multiobjective Optimal Fuzzy Logic Controller Driven Active and Hybrid Control Systems for Seismically Excited Nonlinear Buildings. — A. S. Ahlawat and A. Ramaswamy; 130(4), 416-23 (2004).
Controlling Wind Response through a Fuzzy Controller. — M. Battaini, F. Casciati, and L. Faravelli; 130(4), 486-91 (2004).
Active Control of Cross Wind Response of 76-Story Tall Building Using a Fuzzy Controller. — Bijan Samali, Mohammed Al-Dawod, Kenny C. S. Kwok, and Fazel Naghdy; 130(4), 492-8 (2004).
Vibration Control of Wind-Excited Tall Buildings Using Sliding Mode Fuzzy Control. — Saang Bum Kim, Chung-Bang Yun, and B. F. Spencer, Jr.; 130(4), 505-10 (2004).
Multiobjective Optimal Fuzzy Logic Control System for Response Control of Wind-Excited Tall Buildings. — A. S. Ahlawat and A. Ramaswamy; 130(4), 524-30 (2004).

Gas flow
Engineering Model of Dilute Pneumatic Conveying. — D. Eskin, Y. Leonenko, and O. Vinogradov; 130(7), 794-9 (2004).

Gas pipelines
Engineering Model of Dilute Pneumatic Conveying. — D. Eskin, Y. Leonenko, and O. Vinogradov; 130(7), 794-9 (2004).

Gates
Dynamic Analysis of a Gate–Fluid System. — Farhang Daneshmand, Shailendra K. Sharan, and Mohammad H. Kadivar; 130(12), 1458-66 (2004).

Gaussian process
Generalized Linear Quadratic Gaussian Techniques for the Wind Benchmark Problem. — K. D. Pham, G. Jin, M. K. Sain, B. F. Spencer, Jr., and S. R. Liberty; 130(4), 466-70 (2004).
Spectral Representation for a Class of Non-Gaussian Processes. — Mircea Grigoriu; 130(5), 541-6 (2004).

Geomaterials
Numerical Assessment of the Influence of End Conditions on Constitutive Behavior of Geomaterials. — Boris Jeremić, Zhaohui Yang, and Stein Sture; 130(6), 741-5 (2004).

Geometric nonlinearity
Geometrically Nonlinear Buffeting Response of a Cable-Stayed Bridge. — Ho-Kyung Kim, Masanobu Shinozuka, and Sung-Pil Chang; 130(7), 848-57 (2004).

Geosynthetics
Analyzing Dynamic Behavior of Geosynthetic-Reinforced Soil Retaining Walls. — Hoe I. Ling, Huabei Liu, Victor N. Kaliakin, and Dov Leshchinsky; 130(8), 911-20 (2004).

Granular materials
Modeling Failure and Deformation of an Assembly of Spheres with Frictional Contacts. — Akke S. J. Suiker and Ching S. Chang; 130(3), 283-93 (2004).
Hysteresis of Capillary Stress in Unsaturated Granular Soil. — William J. Likos and Ning Lu; 130(6), 646-55 (2004).
Sliding and Rolling Constitutive Theory for Granular Materials. — A. Anandarajah; 130(6), 665-80 (2004).
Alternative Definition of Particle Rolling in a Granular Assembly. — Matthew R. Kuhn and Katalin Bagi; 130(7), 826-35 (2004).

Grid systems
Weighted Averaged Flux-Type Scheme for Shallow-Water Equations with Fractional Step Method. — Dae-Hong Kim, Yong-Sik Cho, and Woo-Gu Kim; 130(2), 152-60 (2004).

Ground motion
Nonlinear System Identification of Reinforced Concrete Steel Structure: Using Pseudodynamic Testing Data. — Olga V. Pavlenko and Chin-Hsiung Loh; 130(7), 836-47 (2004).
Description and Simulation of Nonstationary Processes Based on Hilbert Spectra. — Y. K. Wen and Ping Gu; 130(8), 942-51 (2004).
Evaluation of Peak Ground Velocity as a "Good" Intensity Measure for Near-Source Ground Motions. — Nicos Makris and Cameron J. Black; 130(9), 1032-44 (2004).

Hazards
Stochastic Asset Pricing with Seismic Hazard Risk. — Masaru Hoshiya, Takaaki Nakamura, and Tomoya Mochizuki; 130(7), 780-5 (2004).

Hydraulic structures
Dynamic Analysis of a Gate–Fluid System. — Farhang Daneshmand, Shailendra K. Sharan, and Mohammad H. Kadivar; 130(12), 1458-66 (2004).

Hydraulics
Shallow Water Wave Propagation in Convectively Accelerating Open-Channel Flow Induced by the Tailwater Effect. — Christina W. Tsai and Ben C. Yen; 130(3), 320-36 (2004).

Hydrodynamics
Transition from Nondeformable Projectile Penetration to Semihydrodynamic Penetration. — X. W. Chen and Q. M. Li; 130(1), 123-7 (2004).
Sediment Threshold with Upward Seepage. — Subhasish Dey and Ulrich C. E. Zanke; 130(9), 1118-23 (2004).

Hysteresis
Hysteresis of Capillary Stress in Unsaturated Granular Soil. — William J. Likos and Ning Lu; 130(6), 646-55 (2004).

Hysteretic systems
Frequency Response of Flag-Shaped Single Degree-of-Freedom Hysteretic Systems. — Constantin Christopoulos; 130(8), 894-903 (2004).
Stochastic Averaging of Preisach Hysteretic Systems. — P. D. Spanos, P. Cacciola, and G. Muscolino; 130(11), 1257-67 (2004).

I beams
Degradation and Buckling of I-Beams under Cyclic Pure Bending. — Shengjun Yin, Edmundo Corona, and Mark S. Ellison; 130(7), 809-17 (2004).

Imaging techniques
Microwave Subsurface Imaging Technology for Damage Detection. — Yoo Jin Kim, Luis Jofre, Franco De Flaviis, and Maria Q. Feng; 130(7), 858-66 (2004).

Impact
Transition from Nondeformable Projectile Penetration to Semihydrodynamic Penetration. — X. W. Chen and Q. M. Li; 130(1), 123-7 (2004).

Impact tests
Parameter Estimation for Multiple-Input Multiple-Output Modal Analysis of Large Structures. — F. Necati Catbas, David L. Brown, and A. Emin Aktan; 130(8), 921-30 (2004).

Imperfection
Finite-Element Analysis of Cylindrical Panels with Random Initial Imperfections. — Vissarion Papadopoulos and Manolis Papadrakakis; 130(8), 867-76 (2004).

Impulsive loads
Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).

In situ tests
Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).

Inelastic action
Reliability of Uncertain Inelastic Structures under Earthquake Excitation. — Paolo Franchin; 130(2), 180-91 (2004).

Instrumentation
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).

Integral equations
An Integral Equation for Damage Identification of Euler-Bernoulli Beams under Static Loads. — Mario Di Paola and Cristiano Bilello; 130(2), 225-34 (2004).

Integrals
Use of *M* Integral for Rubbery Material Problems Containing Multiple Defects. — Jui-Hung Chang and Deh-Jun Peng; 130(5), 589-98 (2004).

Internal forces
Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).

Joints
Buckling of a Weakened Column. — C. Y. Wang, C. M. Wang, and Tun Myint Aung; 130(11), 1373-6 (2004).

Kinematics
Experimental Inspiration for Kinematic Hardening Soil Models. — David Muir Wood; 130(6), 656-64 (2004).
Alternative Definition of Particle Rolling in a Granular Assembly. — Matthew R. Kuhn and Katalin Bagi; 130(7), 826-35 (2004).

Laboratory tests
Experimental Inspiration for Kinematic Hardening Soil Models. — David Muir Wood; 130(6), 656-64 (2004).
Numerical Assessment of the Influence of End Conditions on Constitutive Behavior of Geomaterials. — Boris Jeremić, Zhaohui Yang, and Stein Sture; 130(6), 741-5 (2004).
Instability and Static Liquefaction on Proportional Strain Paths for Sand at Low Stresses. — Laurent Lancelot, Isam Shahrour, and Marwan Al Mahmoud; 130(11), 1365-72 (2004).

Laminated materials
Thermal Postbuckling of Laminated Composite Plates with Temperature Dependent Properties. — K. K. Shukla, J. H. Huang, and Y. Nath; 130(7), 818-25 (2004).

Laminates
Natural Vibrations of Laminated and Sandwich Plates. — M. K. Rao, K. Scherbatiuk, Y. M. Desai, and A. H. Shah; 130(11), 1268-78 (2004).
High-Order Analysis of Reinforced Concrete Slabs Strengthened with Circular Composite Laminated Patches of General Layup. — Oded Rabinovitch and Yeoshua Frostig; 130(11), 1334-45 (2004).
Moving Least-Squares Differential Quadrature Method for Free Vibration of Antisymmetric Laminates. — Q. S. Li and Y. Q. Huang; 130(12), 1447-57 (2004).

Lateral loads
Continuum Mechanics of Lateral Soil–Pile Interaction. — Farzad Abedzadeh and Ronald Y. S. Pak; 130(11), 1309-18 (2004).

Least-squares method
Least-Squares, Moment-Based, and Hybrid Polynomializations of Drag Forces. — Chih Young Liaw and Xiang Yuan Zheng; 130(3), 294-302 (2004).

Life cycle cost
Stochastic Asset Pricing with Seismic Hazard Risk. — Masaru Hoshiya, Takaaki Nakamura, and Tomoya Mochizuki; 130(7), 780-5 (2004).

Limit analysis
Slope Stability Analysis with Nonlinear Failure Criterion. — Xiao-Li Yang and Jian-Hua Yin; 130(3), 267-73 (2004).
Rigid Finite Element Method for Upper Bound Limit Analysis of Soil Slopes Subjected to Pore Water Pressure. — Jian Chen, Jian-Hua Yin, and C. F. Lee; 130(8), 886-93 (2004).

Linear systems
Random Vibration of Systems with Viscoelastic Memory. — A. Palmeri, F. Ricciardelli, G. Muscolino, and A. De Luca; 130(9), 1052-61 (2004).

Liquefaction
Instability and Static Liquefaction on Proportional Strain Paths for Sand at Low Stresses. — Laurent Lancelot, Isam Shahrour, and Marwan Al Mahmoud; 130(11), 1365-72 (2004).

Liquids
Energy Equation for Volatile Liquid Transport in Porous Media. — Lyle Prunty; 130(3), 259-66 (2004).

Load tests
Parameter Estimation for Multiple-Input Multiple-Output Modal Analysis of Large Structures. — F. Necati Catbas, David L. Brown, and A. Emin Aktan; 130(8), 921-30 (2004).

Load transfer
Continuum Mechanics of Lateral Soil–Pile Interaction. — Farzad Abedzadeh and Ronald Y. S. Pak; 130(11), 1309-18 (2004).

Localization
Conditions for Compaction Band Formation in Porous Rock Using a Two-Yield Surface Model. — Vennela Challa and Kathleen A. Issen; 130(9), 1089-97 (2004).

Marine clays
Indentation of a Free-Falling Sharp Penetrometer into a Poroelastic Seabed. — Dae Sung Lee and Derek Elsworth; 130(2), 170-9 (2004).

Markov chains
Probabilistic Failure Analysis by Importance Sampling Markov Chain Simulation. — S. K. Au; 130(3), 303-11 (2004).

Markov process
Stochastic Asset Pricing with Seismic Hazard Risk. — Masaru Hoshiya, Takaaki Nakamura, and Tomoya Mochizuki; 130(7), 780-5 (2004).

Masonry
Modeling Masonry Shear-Compression: Role of Dilatancy Highlighted. — Gideon P. A. G. van Zijl; 130(11), 1289-96 (2004).

Material properties
Adaptive Resolution of Localized Damage in Quasi-brittle Materials. — Bořek Patzák and Milan Jirásek; 130(6), 720-32 (2004).

Materials
Modeling and Simulation of Porous Elastoviscoplastic Material. — Kevin K. Tseng; 130(5), 547-50 (2004).

Mathematical models
Constitutive Model of High-Damping Rubber Materials. — Junji Yoshida, Masato Abe, and Yozo Fujino; 130(2), 129-41 (2004).
Separation of Scales in Fracture Mechanics: From Molecular to Continuum Theory via Γ Convergence. — M. S. Gelli and G. F. Royer-Carfagni; 130(2), 204-15 (2004).

Matrix methods
Natural Vibrations of Laminated and Sandwich Plates. — M. K. Rao, K. Scherbatiuk, Y. M. Desai, and A. H. Shah; 130(11), 1268-78 (2004).

Measurement
Model Selection Using Response Measurements: Bayesian Probabilistic Approach. — James L. Beck and Ka-Veng Yuen; 130(2), 192-203 (2004).
Experimentally Validated Added Mass Identification Algorithm Based on Frequency Response Functions. — Paul J. Fanning and E. Peter Carden; 130(9), 1045-51 (2004).

Mechanical properties
Modeling Failure and Deformation of an Assembly of Spheres with Frictional Contacts. — Akke S. J. Suiker and Ching S. Chang; 130(3), 283-93 (2004).

Mechanical systems, structural
Model Selection Using Response Measurements: Bayesian Probabilistic Approach. — James L. Beck and Ka-Veng Yuen; 130(2), 192-203 (2004).

Methodology
Natural Excitation Technique and Eigensystem Realization Algorithm for Phase I of the IASC-ASCE Benchmark Problem: Simulated Data. — Juan Martin Caicedo, Shirley J. Dyke, and Erik A. Johnson; 130(1), 49-60 (2004).
Investigation of a System Identification Methodology in the Context of the ASCE Benchmark Problem. — Hilmi Luş, Raimondo Betti, Jun Yu, and Maurizio De Angelis; 130(1), 71-84 (2004).

Micromechanics
Modeling and Simulation of Porous Elastoviscoplastic Material. — Kevin K. Tseng; 130(5), 547-50 (2004).

Microscopy
Sliding and Rolling Constitutive Theory for Granular Materials. — A. Anandarajah; 130(6), 665-80 (2004).

Microstructures
Stress Dilatancy and Fabric Dependencies on Sand Behavior. — Richard G. Wan and Pei J. Guo; 130(6), 635-45 (2004).
Description of Creep in Inherently Anisotropic Frictional Materials. — S. Pietruszczak, D. Lydzba, and J. F. Shao; 130(6), 681-90 (2004).
Temperature Effect on Concrete Creep Modeled by Microprestress-Solidification Theory. — Zdeněk P. Bažant, Gianluca Cusatis, and Luigi Cedolin; 130(6), 691-9 (2004).
Probabilistic Model for Polycrystalline Microstructures with Application to Intergranular Fracture. — Sanjay R. Arwade and Mircea Grigoriu; 130(9), 997-1005 (2004).

Microwaves
Microwave Subsurface Imaging Technology for Damage Detection. — Yoo Jin Kim, Luis Jofre, Franco De Flaviis, and Maria Q. Feng; 130(7), 858-66 (2004).

Modal analysis
Parameter Estimation for Multiple-Input Multiple-Output Modal Analysis of Large Structures. — F. Necati Catbas, David L. Brown, and A. Emin Aktan; 130(8), 921-30 (2004).
Modal Scaling from Known Mass Perturbations. — Dionisio Bernal; 130(9), 1083-8 (2004).
Fault Classification Using Pseudomodal Energies and Probabilistic Neural Networks. — Tshilidzi Marwala; 130(11), 1346-55 (2004).

Model accuracy
Accuracy Order of Crank–Nicolson Discretization for Hydrostatic Free-Surface Flow. — Ben R. Hodges; 130(8), 904-10 (2004).

Model studies
Model Selection Using Response Measurements: Bayesian Probabilistic Approach. — James L. Beck and Ka-Veng Yuen; 130(2), 192-203 (2004).

Models
Modeling Failure and Deformation of an Assembly of Spheres with Frictional Contacts. — Akke S. J. Suiker and Ching S. Chang; 130(3), 283-93 (2004).
Spectral Representation for a Class of Non-Gaussian Processes. — Mircea Grigoriu; 130(5), 541-6 (2004).
Simple Plasticity Sand Model Accounting for Fabric Change Effects. — Yannis F. Dafalias and Majid T. Manzari; 130(6), 622-34 (2004).
Identification and Validation of a Discrete Element Model for Concrete. — Sébastien Hentz, Laurent Daudeville, and Frédéric V. Donzé; 130(6), 709-19 (2004).
Damage Modeling of Saturated Rocks in Drained and Undrained Conditions. — J. F. Shao, Y. F. Lu, and D. Lydzba; 130(6), 733-40 (2004).
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. II: Receiver Model. — Lincy Pyl, Geert Degrande, and Didier Clouteau; 130(12), 1394-406 (2004).

Monitoring
Application of Wavelet Approach for ASCE Structural Health Monitoring Benchmark Studies. — Adriana Hera and Zhikun Hou; 130(1), 96-104 (2004).
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).

Monte Carlo method
Probabilistic Failure Analysis by Importance Sampling Markov Chain Simulation. — S. K. Au; 130(3), 303-11 (2004).
Spectral Representation for a Class of Non-Gaussian Processes. — Mircea Grigoriu; 130(5), 541-6 (2004).
Probabilistic Model for Polycrystalline Microstructures with Application to Intergranular Fracture. — Sanjay R. Arwade and Mircea Grigoriu; 130(9), 997-1005 (2004).
Stochastic Averaging of Preisach Hysteretic Systems. — P. D. Spanos, P. Cacciola, and G. Muscolino; 130(11), 1257-67 (2004).
Reliability Analysis Using Parabolic Failure Surface Approximation. — S. Adhikari; 130(12), 1407-27 (2004).

Mooring
Stochastic Analysis of a Single-Degree-of-Freedom Nonlinear Experimental Moored System Using an Independent-Flow-Field Model. — H. Lin and S. C. S. Yim; 130(2), 161-9 (2004).

Natural frequency
Identification of Natural Frequencies and Dampings of In Situ Tall Buildings Using Ambient Wind Vibration Data. — Jann N. Yang, Ying Lei, Silian Lin, and Norden Huang; 130(5), 570-7 (2004).

Neural networks
Optimal Neurocontroller for Nonlinear Benchmark Structure. — Dong-Hyawn Kim, Seung-Nam Seo, and In-Won Lee; 130(4), 424-9 (2004).
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).
Fault Classification Using Pseudomodal Energies and Probabilistic Neural Networks. — Tshilidzi Marwala; 130(11), 1346-55 (2004).
Estimation of Aeroelastic Parameters of Bridge Decks Using Neural Networks. — Sungmoon Jung, Jamshid Ghaboussi, and Soon-Duck Kwon; 130(11), 1356-64 (2004).

Nondestructive tests
Microwave Subsurface Imaging Technology for Damage Detection. — Yoo Jin Kim, Luis Jofre, Franco De Flaviis, and Maria Q. Feng; 130(7), 858-66 (2004).
Element Level System Identification with Unknown Input with Rayleigh Damping. — Xiaolin Ling and Achintya Haldar; 130(8), 877-85 (2004).

Nonlinear analysis
Slope Stability Analysis with Nonlinear Failure Criterion. — Xiao-Li Yang and Jian-Hua Yin; 130(3), 267-73 (2004).
Large Deflection Stability of Slender Beam-Columns with Semirigid Connections: Elastica Approach. — J. Darío Aristizábal-Ochoa; 130(3), 274-82 (2004).
Benchmark Control Problems for Seismically Excited Nonlinear Buildings. — Y. Ohtori, R. E. Christenson, B. F. Spencer, Jr., and S. J. Dyke; 130(4), 366-85 (2004).
Dimensional Analysis of Rigid-Plastic and Elastoplastic Structures under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1006-18 (2004).
Dimensional Analysis of Bilinear Oscillators under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1019-31 (2004).
Evaluation of Peak Ground Velocity as a "Good" Intensity Measure for Near-Source Ground Motions. — Nicos Makris and Cameron J. Black; 130(9), 1032-44 (2004).
Modeling Concrete Masonry Walls Subjected to Explosive Loads. — Christopher D. Eamon, James T. Baylot, and James L. O'Daniel; 130(9), 1098-106 (2004).

Nonlinear programming
Rigid Finite Element Method for Upper Bound Limit Analysis of Soil Slopes Subjected to Pore Water Pressure. — Jian Chen, Jian-Hua Yin, and C. F. Lee; 130(8), 886-93 (2004).

Nonlinear systems
Stochastic Analysis of a Single-Degree-of-Freedom Nonlinear Experimental Moored System Using an Independent-Flow-Field Model. — H. Lin and S. C. S. Yim; 130(2), 161-9 (2004).
Optimal Neurocontroller for Nonlinear Benchmark Structure. — Dong-Hyawn Kim, Seung-Nam Seo, and In-Won Lee; 130(4), 424-9 (2004).
Modified Sliding Mode Control for Wind-Excited Benchmark Problem. — Jong-Cheng Wu and Jann N. Yang; 130(4), 499-504 (2004).

Numerical analysis
Investigation of a System Identification Methodology in the Context of the ASCE Benchmark Problem. — Hilmi Luş, Raimondo Betti, Jun Yu, and Maurizio De Angelis; 130(1), 71-84 (2004).
Estimation of Aeroelastic Parameters of Bridge Decks Using Neural Networks. — Sungmoon Jung, Jamshid Ghaboussi, and Soon-Duck Kwon; 130(11), 1356-64 (2004).
Moving Least-Squares Differential Quadrature Method for Free Vibration of Antisymmetric Laminates. — Q. S. Li and Y. Q. Huang; 130(12), 1447-57 (2004).

Numerical models
Weighted Averaged Flux-Type Scheme for Shallow-Water Equations with Fractional Step Method. — Dae-Hong Kim, Yong-Sik Cho, and Woo-Gu Kim; 130(2), 152-60 (2004).
Buckling of Elastic Shallow Arches Using the Theory of a Cosserat Point. — M. B. Rubin; 130(2), 216-24 (2004).
Numerical Investigation of Effects of Water Saturation on Blast Wave Propagation in Soil Mass. — Zhongqi Wang, Yong Lu, and Hong Hao; 130(5), 551-61 (2004).
Nonlinear System Identification of Reinforced Concrete Steel Structure: Using Pseudodynamic Testing Data. — Olga V. Pavlenko and Chin-Hsiung Loh; 130(7), 836-47 (2004).
Accuracy Order of Crank–Nicolson Discretization for Hydrostatic Free-Surface Flow. — Ben R. Hodges; 130(8), 904-10 (2004).
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. I: Source Model. — Lincy Pyl, Geert Degrande, Geert Lombaert, and Wim Haegeman; 130(12), 1377-93 (2004).
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. II: Receiver Model. — Lincy Pyl, Geert Degrande, and Didier Clouteau; 130(12), 1394-406 (2004).

Offshore structures
Least-Squares, Moment-Based, and Hybrid Polynomializations of Drag Forces. — Chih Young Liaw and Xiang Yuan Zheng; 130(3), 294-302 (2004).

Open channel flow
Shallow Water Wave Propagation in Convectively Accelerating Open-Channel Flow Induced by the Tailwater Effect. — Christina W. Tsai and Ben C. Yen; 130(3), 320-36 (2004).
Sediment Threshold with Upward Seepage. — Subhasish Dey and Ulrich C. E. Zanke; 130(9), 1118-23 (2004).
Plane Turbulent Wall Jets on Rough Boundaries with Limited Tailwater. — S. A. Ead and N. Rajaratnam; 130(10), 1245-50 (2004).

Optimization
Slope Stability Analysis with Nonlinear Failure Criterion. — Xiao-Li Yang and Jian-Hua Yin; 130(3), 267-73 (2004).
Semiactive Control of the 20-Story Benchmark Building with Piezoelectric Friction Dampers. — Genda Chen and Chaoqiang Chen; 130(4), 393-400 (2004).
Application of a Genetic Algorithm for Optimal Damper Distribution within the Nonlinear Seismic Benchmark Building. — N. Wongprasert and M. D. Symans; 130(4), 401-6 (2004).

Orthotropism
Time-Domain Boundary Element Method for Underground Structures in Orthotropic Media. — Zhang Chuhan, Ren Yuntao, O. A. Pekau, and Jin Feng; 130(1), 105-16 (2004).

Oscillations
Dimensional Analysis of Bilinear Oscillators under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1019-31 (2004).

Overland flow
Accuracy Order of Crank–Nicolson Discretization for Hydrostatic Free-Surface Flow. — Ben R. Hodges; 130(8), 904-10 (2004).

Panels
Finite-Element Analysis of Cylindrical Panels with Random Initial Imperfections. — Vissarion Papadopoulos and Manolis Papadrakakis; 130(8), 867-76 (2004).
Probabilistic Approach to Predict Cracking in Lightly Reinforced Microconcrete Panels. — Ana Rita C. da Silva, Sergio P. B. Proença, René Billardon, and François Hild; 130(8), 931-41 (2004).
Postbuckling of Axially Loaded Functionally Graded Cylindrical Panels with Piezoelectric Actuators in Thermal Environments. — Hui-Shen Shen and K. M. Liew; 130(8), 982-95 (2004).

Parameters
Parameter Estimation for Multiple-Input Multiple-Output Modal Analysis of Large Structures. — F. Necati Catbas, David L. Brown, and A. Emin Aktan; 130(8), 921-30 (2004).

Particle interactions
Engineering Model of Dilute Pneumatic Conveying. — D. Eskin, Y. Leonenko, and O. Vinogradov; 130(7), 794-9 (2004).
Fluid–Solid Interaction in Particle-Laden Flows. — Q. Q. Liu and V. P. Singh; 130(12), 1476-85 (2004).

Particulate media
Partitioned Distinct Element Method Simulation of Granular Flow within Industrial Silos. — D. R. Parisi, S. Masson, and J. Martinez; 130(7), 771-9 (2004).

Passive control
Application of a Genetic Algorithm for Optimal Damper Distribution within the Nonlinear Seismic Benchmark Building. — N. Wongprasert and M. D. Symans; 130(4), 401-6 (2004).
Control Effect for 20-Story Benchmark Building Using Passive or Semiactive Device. — Akira Fukukita, Tomoo Saito, and Keiji Shiba; 130(4), 430-6 (2004).

Pavements
Continuum Damage Approach to Asphalt Concrete Fatigue Modeling. — Didier Bodin, Gilles Pijaudier-Cabot, Chantal de La Roche, Jean-Michel Piau, and Armelle Chabot; 130(6), 700-8 (2004).

Peak values
Linear Multiobjective Control Strategies for Wind-Excited Buildings. — Jann N. Yang, Silian Lin, and Faryar Jabbari; 130(4), 471-7 (2004).

Penetration
Transition from Nondeformable Projectile Penetration to Semihydrodynamic Penetration. — X. W. Chen and Q. M. Li; 130(1), 123-7 (2004).

Penetrometers
Indentation of a Free-Falling Sharp Penetrometer into a Poroelastic Seabed. — Dae Sung Lee and Derek Elsworth; 130(2), 170-9 (2004).

Performance evaluation
Semiactive Control of the 20-Story Benchmark Building with Piezoelectric Friction Dampers. — Genda Chen and Chaoqiang Chen; 130(4), 393-400 (2004).
Linear Quadratic Gaussian-Alpha Control with Relative Stability and Gain Parameter for the Structural Benchmark Problems. — Sheng-Guo Wang; 130(4), 511-7 (2004).
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).

Periodic functions
Glass Fiber Reinforced Polymer Pultruded Members: Constitutive Model and Stability Analysis. — Antonella Cecchi and Roberto Di Marco; 130(8), 961-70 (2004).

Permeability
Indentation of a Free-Falling Sharp Penetrometer into a Poroelastic Seabed. — Dae Sung Lee and Derek Elsworth; 130(2), 170-9 (2004).

Perturbation
Modal Scaling from Known Mass Perturbations. — Dionisio Bernal; 130(9), 1083-8 (2004).

Piezoelectricity
Semiactive Control of the 20-Story Benchmark Building with Piezoelectric Friction Dampers. — Genda Chen and Chaoqiang Chen; 130(4), 393-400 (2004).

Pile foundations
Continuum Mechanics of Lateral Soil–Pile Interaction. — Farzad Abedzadeh and Ronald Y. S. Pak; 130(11), 1309-18 (2004).

Pipe flow
Experiments on Unsteady Turbulent Pipe Flow. — John P. Viola and Hans J. Leutheusser; 130(2), 240-4 (2004).
Fluid–Solid Interaction in Particle-Laden Flows. — Q. Q. Liu and V. P. Singh; 130(12), 1476-85 (2004).

Plastic deformation
Sliding and Rolling Constitutive Theory for Granular Materials. — A. Anandarajah; 130(6), 665-80 (2004).

Plasticity
Plastic Buckling of Simply Supported, Polygonal Mindlin Plates. — C. M. Wang; 130(1), 117-22 (2004).
Modeling and Simulation of Porous Elastoviscoplastic Material. — Kevin K. Tseng; 130(5), 547-50 (2004).
Simple Plasticity Sand Model Accounting for Fabric Change Effects. — Yannis F. Dafalias and Majid T. Manzari; 130(6), 622-34 (2004).
Analyzing Dynamic Behavior of Geosynthetic-Reinforced Soil Retaining Walls. — Hoe I. Ling, Huabei Liu, Victor N. Kaliakin, and Dov Leshchinsky; 130(8), 911-20 (2004).
Sand Plasticity Model Accounting for Inherent Fabric Anisotropy. — Yannis F. Dafalias, Achilleas G. Papadimitriou, and Xiang S. Li; 130(11), 1319-33 (2004).
Concrete Subjected to Triaxial Stress States: Application to Pull-Out Analyses. — Peter Pivonka, Roman Lackner, and Herbert A. Mang; 130(12), 1486-98 (2004).

Plates
Plastic Buckling of Simply Supported, Polygonal Mindlin Plates. — C. M. Wang; 130(1), 117-22 (2004).
Thermal Postbuckling of Laminated Composite Plates with Temperature Dependent Properties. — K. K. Shukla, J. H. Huang, and Y. Nath; 130(7), 818-25 (2004).
Glass Fiber Reinforced Polymer Pultruded Members: Constitutive Model and Stability Analysis. — Antonella Cecchi and Roberto Di Marco; 130(8), 961-70 (2004).
Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).
Natural Vibrations of Laminated and Sandwich Plates. — M. K. Rao, K. Scherbatiuk, Y. M. Desai, and A. H. Shah; 130(11), 1268-78 (2004).

Pneumatic systems
Engineering Model of Dilute Pneumatic Conveying. — D. Eskin, Y. Leonenko, and O. Vinogradov; 130(7), 794-9 (2004).

Polygons
Plastic Buckling of Simply Supported, Polygonal Mindlin Plates. — C. M. Wang; 130(1), 117-22 (2004).

Polynomials
Least-Squares, Moment-Based, and Hybrid Polynomializations of Drag Forces. — Chih Young Liaw and Xiang Yuan Zheng; 130(3), 294-302 (2004).

Pore pressure
Indentation of a Free-Falling Sharp Penetrometer into a Poroelastic Seabed. — Dae Sung Lee and Derek Elsworth; 130(2), 170-9 (2004).

Pore water pressure
Rigid Finite Element Method for Upper Bound Limit Analysis of Soil Slopes Subjected to Pore Water Pressure. — Jian Chen, Jian-Hua Yin, and C. F. Lee; 130(8), 886-93 (2004).

Poroelasticity
Indentation of a Free-Falling Sharp Penetrometer into a Poroelastic Seabed. — Dae Sung Lee and Derek Elsworth; 130(2), 170-9 (2004).

Porous materials
Modeling and Simulation of Porous Elastoviscoplastic Material. — Kevin K. Tseng; 130(5), 547-50 (2004).
Conditions for Compaction Band Formation in Porous Rock Using a Two-Yield Surface Model. — Vennela Challa and Kathleen A. Issen; 130(9), 1089-97 (2004).

Porous media
Energy Equation for Volatile Liquid Transport in Porous Media. — Lyle Prunty; 130(3), 259-66 (2004).

Postbuckling
Thermal Postbuckling of Laminated Composite Plates with Temperature Dependent Properties. — K. K. Shukla, J. H. Huang, and Y. Nath; 130(7), 818-25 (2004).
Postbuckling of Axially Loaded Functionally Graded Cylindrical Panels with Piezoelectric Actuators in Thermal Environments. — Hui-Shen Shen and K. M. Liew; 130(8), 982-95 (2004).

Pressure reduction
Engineering Model of Dilute Pneumatic Conveying. — D. Eskin, Y. Leonenko, and O. Vinogradov; 130(7), 794-9 (2004).

Pricing
Stochastic Asset Pricing with Seismic Hazard Risk. — Masaru Hoshiya, Takaaki Nakamura, and Tomoya Mochizuki; 130(7), 780-5 (2004).

Probabilistic methods
Stochastic Analysis of a Single-Degree-of-Freedom Nonlinear Experimental Moored System Using an Independent-Flow-Field Model. — H. Lin and S. C. S. Yim; 130(2), 161-9 (2004).
Model Selection Using Response Measurements: Bayesian Probabilistic Approach. — James L. Beck and Ka-Veng Yuen; 130(2), 192-203 (2004).
Probabilistic Failure Analysis by Importance Sampling Markov Chain Simulation. — S. K. Au; 130(3), 303-11 (2004).
Probabilistic Approach to Predict Cracking in Lightly Reinforced Microconcrete Panels. — Ana Rita C. da Silva, Sergio P. B. Proença, René Billardon, and François Hild; 130(8), 931-41 (2004).
Probabilistic Model for Polycrystalline Microstructures with Application to Intergranular Fracture. — Sanjay R. Arwade and Mircea Grigoriu; 130(9), 997-1005 (2004).

Probability
Fault Classification Using Pseudomodal Energies and Probabilistic Neural Networks. — Tshilidzi Marwala; 130(11), 1346-55 (2004).

Probability density functions
Stochastic Analysis of a Single-Degree-of-Freedom Nonlinear Experimental Moored System Using an Independent-Flow-Field Model. — H. Lin and S. C. S. Yim; 130(2), 161-9 (2004).

Pseudodynamic method
Nonlinear System Identification of Reinforced Concrete Steel Structure: Using Pseudodynamic Testing Data. — Olga V. Pavlenko and Chin-Hsiung Loh; 130(7), 836-47 (2004).

Pull-out resistance
Concrete Subjected to Triaxial Stress States: Application to Pull-Out Analyses. — Peter Pivonka, Roman Lackner, and Herbert A. Mang; 130(12), 1486-98 (2004).

Random vibration
Random Vibration of Systems with Viscoelastic Memory. — A. Palmeri, F. Ricciardelli, G. Muscolino, and A. De Luca; 130(9), 1052-61 (2004).
Stochastic Averaging of Preisach Hysteretic Systems. — P. D. Spanos, P. Cacciola, and G. Muscolino; 130(11), 1257-67 (2004).

Reliability analysis
Probabilistic Failure Analysis by Importance Sampling Markov Chain Simulation. — S. K. Au; 130(3), 303-11 (2004).
Reliability Analysis Using Parabolic Failure Surface Approximation. — S. Adhikari; 130(12), 1407-27 (2004).

Retaining walls
Analyzing Dynamic Behavior of Geosynthetic-Reinforced Soil Retaining Walls. — Hoe I. Ling, Huabei Liu, Victor N. Kaliakin, and Dov Leshchinsky; 130(8), 911-20 (2004).

Risk management
Stochastic Asset Pricing with Seismic Hazard Risk. — Masaru Hoshiya, Takaaki Nakamura, and Tomoya Mochizuki; 130(7), 780-5 (2004).

Robust design
Robust Control for Structural Systems with Unstructured Uncertainties. — Sheng-Guo Wang, Paul N. Roschke, and H. Y. Yeh; 130(3), 337-46 (2004).
Linear Quadratic Gaussian-Alpha Control with Relative Stability and Gain Parameter for the Structural Benchmark Problems. — Sheng-Guo Wang; 130(4), 511-7 (2004).

Rock masses
Time Integration in Discontinuous Deformation Analysis. — David M. Doolin and Nicholas Sitar; 130(3), 249-58 (2004).

Rocks
Damage Modeling of Saturated Rocks in Drained and Undrained Conditions. — J. F. Shao, Y. F. Lu, and D. Lydzba; 130(6), 733-40 (2004).
Conditions for Compaction Band Formation in Porous Rock Using a Two-Yield Surface Model. — Vennela Challa and Kathleen A. Issen; 130(9), 1089-97 (2004).

Rods
Buckling of Elastic Shallow Arches Using the Theory of a Cosserat Point. — M. B. Rubin; 130(2), 216-24 (2004).

Rubber
Constitutive Model of High-Damping Rubber Materials. — Junji Yoshida, Masato Abe, and Yozo Fujino; 130(2), 129-41 (2004).
Use of *M* Integral for Rubbery Material Problems Containing Multiple Defects. — Jui-Hung Chang and Deh-Jun Peng; 130(5), 589-98 (2004).

Samples
Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).

Sampling
Probabilistic Failure Analysis by Importance Sampling Markov Chain Simulation. — S. K. Au; 130(3), 303-11 (2004).

Sand
Characterization of Failure in Cross-Anisotropic Soils. — Andrei V. Abelev and Poul V. Lade; 130(5), 599-606 (2004).
Simple Plasticity Sand Model Accounting for Fabric Change Effects. — Yannis F. Dafalias and Majid T. Manzari; 130(6), 622-34 (2004).
Stress Dilatancy and Fabric Dependencies on Sand Behavior. — Richard G. Wan and Pei J. Guo; 130(6), 635-45 (2004).
Experimental Inspiration for Kinematic Hardening Soil Models. — David Muir Wood; 130(6), 656-64 (2004).
Sand Plasticity Model Accounting for Inherent Fabric Anisotropy. — Yannis F. Dafalias, Achilleas G. Papadimitriou, and Xiang S. Li; 130(11), 1319-33 (2004).
Instability and Static Liquefaction on Proportional Strain Paths for Sand at Low Stresses. — Laurent Lancelot, Isam Shahrour, and Marwan Al Mahmoud; 130(11), 1365-72 (2004).

Sandstone
Conditions for Compaction Band Formation in Porous Rock Using a Two-Yield Surface Model. — Vennela Challa and Kathleen A. Issen; 130(9), 1089-97 (2004).

Sandwich panels
Natural Vibrations of Laminated and Sandwich Plates. — M. K. Rao, K. Scherbatiuk, Y. M. Desai, and A. H. Shah; 130(11), 1268-78 (2004).

Sandwich structures
Stability of Composite and Sandwich Struts by Mixed Formulation. — J. B. Dafedar and Y. M. Desai; 130(7), 762-70 (2004).

Saturated soils
Numerical Investigation of Effects of Water Saturation on Blast Wave Propagation in Soil Mass. — Zhongqi Wang, Yong Lu, and Hong Hao; 130(5), 551-61 (2004).

Saturation
Scheduled Controllers for Buildings under Seismic Excitation with Limited Actuator Capacity. — Jin-Hoon Kim and F. Jabbari; 130(7), 800-8 (2004).

Scale effects
Probabilistic Approach to Predict Cracking in Lightly Reinforced Microconcrete Panels. — Ana Rita C. da Silva, Sergio P. B. Proença, René Billardon, and François Hild; 130(8), 931-41 (2004).

Scheduling
Scheduled Controllers for Buildings under Seismic Excitation with Limited Actuator Capacity. — Jin-Hoon Kim and F. Jabbari; 130(7), 800-8 (2004).

Sediment transport
Sediment Threshold with Upward Seepage. — Subhasish Dey and Ulrich C. E. Zanke; 130(9), 1118-23 (2004).

Sedimentary rock
Description of Creep in Inherently Anisotropic Frictional Materials. — S. Pietruszczak, D. Lydzba, and J. F. Shao; 130(6), 681-90 (2004).

Seepage
Sediment Threshold with Upward Seepage. — Subhasish Dey and Ulrich C. E. Zanke; 130(9), 1118-23 (2004).

Seismic analysis
Benchmark Control Problems for Seismically Excited Nonlinear Buildings. — Y. Ohtori, R. E. Christenson, B. F. Spencer, Jr., and S. J. Dyke; 130(4), 366-85 (2004).

Seismic design
Identification of the Soil–Structure Interaction System Using Earthquake Response Data. — Jun-Seong Choi, Jong-Seh Lee, and Chung-Bang Yun; 130(7), 753-61 (2004).

Seismic effects
Seismic Control of a Nonlinear Benchmark Building Using Smart Dampers. — Osamu Yoshida and Shirley J. Dyke; 130(4), 386-92 (2004).
Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).

Seismic hazard
Scheduled Controllers for Buildings under Seismic Excitation with Limited Actuator Capacity. — Jin-Hoon Kim and F. Jabbari; 130(7), 800-8 (2004).

Seismic response
Phase I IASC-ASCE Structural Health Monitoring Benchmark Problem Using Simulated Data. — E. A. Johnson, H. F. Lam, L. S. Katafygiotis, and J. L. Beck; 130(1), 3-15 (2004).
Natural Excitation Technique and Eigensystem Realization Algorithm for Phase I of the IASC-ASCE Benchmark Problem: Simulated Data. — Juan Martin Caicedo, Shirley J. Dyke, and Erik A. Johnson; 130(1), 49-60 (2004).
Application of a Genetic Algorithm for Optimal Damper Distribution within the Nonlinear Seismic Benchmark Building. — N. Wongprasert and M. D. Symans; 130(4), 401-6 (2004).
Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).
Dimensional Analysis of Rigid-Plastic and Elastoplastic Structures under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1006-18 (2004).
Dimensional Analysis of Bilinear Oscillators under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1019-31 (2004).
Evaluation of Peak Ground Velocity as a "Good" Intensity Measure for Near-Source Ground Motions. — Nicos Makris and Cameron J. Black; 130(9), 1032-44 (2004).

Sensitivity analysis
Reliability of Uncertain Inelastic Structures under Earthquake Excitation. — Paolo Franchin; 130(2), 180-91 (2004).

Sensors
Controlling Wind Response through a Fuzzy Controller. — M. Battaini, F. Casciati, and L. Faravelli; 130(4), 486-91 (2004).

Shallow water
Weighted Averaged Flux-Type Scheme for Shallow-Water Equations with Fractional Step Method. — Dae-Hong Kim, Yong-Sik Cho, and Woo-Gu Kim; 130(2), 152-60 (2004).
Shallow Water Wave Propagation in Convectively Accelerating Open-Channel Flow Induced by the Tailwater Effect. — Christina W. Tsai and Ben C. Yen; 130(3), 320-36 (2004).

Shear deformation
Column Stability and Minimum Lateral Bracing: Effects of Shear Deformations. — J. Darío Aristizábal-Ochoa; 130(10), 1223-32 (2004).

Shear forces
Modeling Masonry Shear-Compression: Role of Dilatancy Highlighted. — Gideon P. A. G. van Zijl; 130(11), 1289-96 (2004).

Shear strength
Characterization of Failure in Cross-Anisotropic Soils. — Andrei V. Abelev and Poul V. Lade; 130(5), 599-606 (2004).
Column Stability and Minimum Lateral Bracing: Effects of Shear Deformations. — J. Darío Aristizábal-Ochoa; 130(10), 1223-32 (2004).
High-Order Analysis of Reinforced Concrete Slabs Strengthened with Circular Composite Laminated Patches of General Layup. — Oded Rabinovitch and Yeoshua Frostig; 130(11), 1334-45 (2004).

Shear stress
Experiments on Unsteady Turbulent Pipe Flow. — John P. Viola and Hans J. Leutheusser; 130(2), 240-4 (2004).

Shrinkage
Temperature Effect on Concrete Creep Modeled by Microprestress-Solidification Theory. — Zdeněk P. Bažant, Gianluca Cusatis, and Luigi Cedolin; 130(6), 691-9 (2004).

Signal processing
Application of Wavelet Approach for ASCE Structural Health Monitoring Benchmark Studies. — Adriana Hera and Zhikun Hou; 130(1), 96-104 (2004).
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).

Silos
Partitioned Distinct Element Method Simulation of Granular Flow within Industrial Silos. — D. R. Parisi, S. Masson, and J. Martinez; 130(7), 771-9 (2004).

Simulation
Modeling Failure and Deformation of an Assembly of Spheres with Frictional Contacts. — Akke S. J. Suiker and Ching S. Chang; 130(3), 283-93 (2004).
Robust Control for Structural Systems with Unstructured Uncertainties. — Sheng-Guo Wang, Paul N. Roschke, and H. Y. Yeh; 130(3), 337-46 (2004).
Partitioned Distinct Element Method Simulation of Granular Flow within Industrial Silos. — D. R. Parisi, S. Masson, and J. Martinez; 130(7), 771-9 (2004).
Geometrically Nonlinear Buffeting Response of a Cable-Stayed Bridge. — Ho-Kyung Kim, Masanobu Shinozuka, and Sung-Pil Chang; 130(7), 848-57 (2004).
Description and Simulation of Nonstationary Processes Based on Hilbert Spectra. — Y. K. Wen and Ping Gu; 130(8), 942-51 (2004).

Size effect
Separation of Scales in Fracture Mechanics: From Molecular to Continuum Theory via Γ Convergence. — M. S. Gelli and G. F. Royer-Carfagni; 130(2), 204-15 (2004).

Slabs
Delamination Effects in Reinforced Concrete Slabs Strengthened with Circular Composite Patches. — O. Rabinovitch and Y. Frostig; 130(12), 1436-46 (2004).

Sliding
Modified Sliding Mode Control for Wind-Excited Benchmark Problem. — Jong-Cheng Wu and Jann N. Yang; 130(4), 499-504 (2004).
Sliding and Rolling Constitutive Theory for Granular Materials. — A. Anandarajah; 130(6), 665-80 (2004).

Slope stability
Slope Stability Analysis with Nonlinear Failure Criterion. — Xiao-Li Yang and Jian-Hua Yin; 130(3), 267-73 (2004).
Rigid Finite Element Method for Upper Bound Limit Analysis of Soil Slopes Subjected to Pore Water Pressure. — Jian Chen, Jian-Hua Yin, and C. F. Lee; 130(8), 886-93 (2004).

Soil dynamics
Numerical Investigation of Effects of Water Saturation on Blast Wave Propagation in Soil Mass. — Zhongqi Wang, Yong Lu, and Hong Hao; 130(5), 551-61 (2004).

Soil structures
Numerical Investigation of Effects of Water Saturation on Blast Wave Propagation in Soil Mass. — Zhongqi Wang, Yong Lu, and Hong Hao; 130(5), 551-61 (2004).
Analyzing Dynamic Behavior of Geosynthetic-Reinforced Soil Retaining Walls. — Hoe I. Ling, Huabei Liu, Victor N. Kaliakin, and Dov Leshchinsky; 130(8), 911-20 (2004).

Soil-structure interaction
Identification of the Soil–Structure Interaction System Using Earthquake Response Data. — Jun-Seong Choi, Jong-Seh Lee, and Chung-Bang Yun; 130(7), 753-61 (2004).
Continuum Mechanics of Lateral Soil–Pile Interaction. — Farzad Abedzadeh and Ronald Y. S. Pak; 130(11), 1309-18 (2004).
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. I: Source Model. — Lincy Pyl, Geert Degrande, Geert Lombaert, and Wim Haegeman; 130(12), 1377-93 (2004).
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. II: Receiver Model. — Lincy Pyl, Geert Degrande, and Didier Clouteau; 130(12), 1394-406 (2004).

Soils
Energy Equation for Volatile Liquid Transport in Porous Media. — Lyle Prunty; 130(3), 259-66 (2004).
Slope Stability Analysis with Nonlinear Failure Criterion. — Xiao-Li Yang and Jian-Hua Yin; 130(3), 267-73 (2004).

Solidification
Temperature Effect on Concrete Creep Modeled by Microprestress-Solidification Theory. — Zdeněk P. Bažant, Gianluca Cusatis, and Luigi Cedolin; 130(6), 691-9 (2004).

Solids flow
Partitioned Distinct Element Method Simulation of Granular Flow within Industrial Silos. — D. R. Parisi, S. Masson, and J. Martinez; 130(7), 771-9 (2004).
Engineering Model of Dilute Pneumatic Conveying. — D. Eskin, Y. Leonenko, and O. Vinogradov; 130(7), 794-9 (2004).

Spectra
Evolutionary Spectra Estimation Using Wavelets. — Pol D. Spanos and Giuseppe Failla; 130(8), 952-60 (2004).

Spectral analysis
Description and Simulation of Nonstationary Processes Based on Hilbert Spectra. — Y. K. Wen and Ping Gu; 130(8), 942-51 (2004).

Spectral density function
Evolutionary Spectra Estimation Using Wavelets. — Pol D. Spanos and Giuseppe Failla; 130(8), 952-60 (2004).

Stability
Large Deflection Stability of Slender Beam-Columns with Semirigid Connections: Elastica Approach. — J. Darío Aristizábal-Ochoa; 130(3), 274-82 (2004).
Effects of Prescribed End Motion on the Dynamic Stability of a Shallow Arch on an Elastic Foundation. — Jen-San Chen and Jian-San Lin; 130(3), 359-62 (2004).
Linear Quadratic Gaussian-Alpha Control with

Relative Stability and Gain Parameter for the Structural Benchmark Problems. — Sheng-Guo Wang; 130(4), 511-7 (2004).
Stress Dilatancy and Fabric Dependencies on Sand Behavior. — Richard G. Wan and Pei J. Guo; 130(6), 635-45 (2004).
Stability of Composite and Sandwich Struts by Mixed Formulation. — J. B. Dafedar and Y. M. Desai; 130(7), 762-70 (2004).
Column Stability and Minimum Lateral Bracing: Effects of Shear Deformations. — J. Darío Aristizábal-Ochoa; 130(10), 1223-32 (2004).

Stability analysis
Glass Fiber Reinforced Polymer Pultruded Members: Constitutive Model and Stability Analysis. — Antonella Cecchi and Roberto Di Marco; 130(8), 961-70 (2004).

Stain rate
Instability and Static Liquefaction on Proportional Strain Paths for Sand at Low Stresses. — Laurent Lancelot, Isam Shahrour, and Marwan Al Mahmoud; 130(11), 1365-72 (2004).

Static loads
An Integral Equation for Damage Identification of Euler-Bernoulli Beams under Static Loads. — Mario Di Paola and Cristiano Bilello; 130(2), 225-34 (2004).

Stationary processes
Spectral Representation for a Class of Non-Gaussian Processes. — Mircea Grigoriu; 130(5), 541-6 (2004).
Description and Simulation of Nonstationary Processes Based on Hilbert Spectra. — Y. K. Wen and Ping Gu; 130(8), 942-51 (2004).
Evolutionary Spectra Estimation Using Wavelets. — Pol D. Spanos and Giuseppe Failla; 130(8), 952-60 (2004).

Statistic models
Application of a Statistical Model Updating Approach on Phase I of the IASC-ASCE Structural Health Monitoring Benchmark Study. — H. F. Lam, L. S. Katafygiotis, and N. C. Mickleborough; 130(1), 34-48 (2004).

Steady state
Partitioned Distinct Element Method Simulation of Granular Flow within Industrial Silos. — D. R. Parisi, S. Masson, and J. Martinez; 130(7), 771-9 (2004).

Stiffness
Wind Response Control of Building with Variable Stiffness Tuned Mass Damper Using Empirical Mode Decomposition/Hilbert Transform. — Nadathur Varadarajan and Satish Nagarajaiah; 130(4), 451-8 (2004).
Experimental Inspiration for Kinematic Hardening Soil Models. — David Muir Wood; 130(6), 656-64 (2004).
Wave Propagation and Mode Localization in Simply Supported Multispan Beams with Couplers on Supports. — Dong-Ok Kim, Byoung-Wan Kim, Jong-Heon Lee, and In-Won Lee; 130(7), 747-52 (2004).
Structural Damage Detection Using Empirical Mode Decomposition: Experimental Investigation. — Y. L. Xu and J. Chen; 130(11), 1279-88 (2004).
Continuum Mechanics of Lateral Soil–Pile Interaction. — Farzad Abedzadeh and Ronald Y. S. Pak; 130(11), 1309-18 (2004).

Stilling basins
Plane Turbulent Wall Jets on Rough Boundaries with Limited Tailwater. — S. A. Ead and N. Rajaratnam; 130(10), 1245-50 (2004).

Stochastic models
Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).
Vibration Control of Wind-Excited Tall Buildings Using Sliding Mode Fuzzy Control. — Saang Bum Kim, Chung-Bang Yun, and B. F. Spencer, Jr.; 130(4), 505-10 (2004).

Stochastic processes
Stochastic Analysis of a Single-Degree-of-Freedom Nonlinear Experimental Moored System Using an Independent-Flow-Field Model. — H. Lin and S. C. S. Yim; 130(2), 161-9 (2004).
Stochastic Asset Pricing with Seismic Hazard Risk. — Masaru Hoshiya, Takaaki Nakamura, and Tomoya Mochizuki; 130(7), 780-5 (2004).
Finite-Element Analysis of Cylindrical Panels with Random Initial Imperfections. — Vissarion Papadopoulos and Manolis Papadrakakis; 130(8), 867-76 (2004).
Evolutionary Spectra Estimation Using Wavelets. — Pol D. Spanos and Giuseppe Failla; 130(8), 952-60 (2004).
Stochastic Averaging of Preisach Hysteretic Systems. — P. D. Spanos, P. Cacciola, and G. Muscolino; 130(11), 1257-67 (2004).

Strain distribution
Asymptotic Approach for Thermoelastic Analysis of Laminated Composite Plates. — Wenbin Yu and Dewey H. Hodges; 130(5), 531-40 (2004).

Strain rate
Identification and Validation of a Discrete Element Model for Concrete. — Sébastien Hentz, Laurent Daudeville, and Frédéric V. Donzé; 130(6), 709-19 (2004).

Strain softening
Separation of Scales in Fracture Mechanics: From Molecular to Continuum Theory via Γ Convergence. — M. S. Gelli and G. F. Royer-Carfagni; 130(2), 204-15 (2004).

Streamflow
Sediment Threshold with Upward Seepage. — Subhasish Dey and Ulrich C. E. Zanke; 130(9), 1118-23 (2004).

Stress distribution
Asymptotic Approach for Thermoelastic Analysis of Laminated Composite Plates. — Wenbin Yu and Dewey H. Hodges; 130(5), 531-40 (2004).

Structural analysis
Stochastic Analysis of a Single-Degree-of-Freedom Nonlinear Experimental Moored System Using an Independent-Flow-Field Model. — H. Lin and S. C. S. Yim; 130(2), 161-9 (2004).
An Integral Equation for Damage Identification of Euler-Bernoulli Beams under Static Loads. — Mario Di Paola and Cristiano Bilello; 130(2), 225-34 (2004).
Large Deflection Stability of Slender Beam-Columns with Semirigid Connections: Elastica Approach. — J. Darío Aristizábal-Ochoa; 130(3), 274-82 (2004).
Energy Balance Assessment of Base-Isolated Structures. — Mark A. Austin and Wane-Jang Lin; 130(3), 347-58 (2004).
Nonconforming Variable-Node Axisymmetric Solid Element. — Chang-Koon Choi and Eun-Jin Lee; 130(5), 578-88 (2004).
Element Level System Identification with Unknown Input with Rayleigh Damping. — Xiaolin Ling and Achintya Haldar; 130(8), 877-85 (2004).
Parameter Estimation for Multiple-Input Multiple-Output Modal Analysis of Large Structures. — F. Necati Catbas, David L. Brown, and A. Emin Aktan; 130(8), 921-30 (2004).

Structural control
Robust Control for Structural Systems with Unstructured Uncertainties. — Sheng-Guo Wang, Paul N. Roschke, and H. Y. Yeh; 130(3), 337-46 (2004).
Benchmark Control Problems for Seismically Excited Nonlinear Buildings. — Y. Ohtori, R. E. Christenson, B. F. Spencer, Jr., and S. J. Dyke; 130(4), 366-85 (2004).
Seismic Control of a Nonlinear Benchmark Building Using Smart Dampers. — Osamu Yoshida and Shirley J. Dyke; 130(4), 386-92 (2004).
Semiactive Control of the 20-Story Benchmark Building with Piezoelectric Friction Dampers. — Genda Chen and Chaoqiang Chen; 130(4), 393-400 (2004).
Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).
Multiobjective Optimal Fuzzy Logic Controller Driven Active and Hybrid Control Systems for Seismically Excited Nonlinear Buildings. — A. S. Ahlawat and A. Ramaswamy; 130(4), 416-23 (2004).
Optimal Neurocontroller for Nonlinear Benchmark Structure. — Dong-Hyawn Kim, Seung-Nam Seo, and In-Won Lee; 130(4), 424-9 (2004).
Control Effect for 20-Story Benchmark Building Using Passive or Semiactive Device. — Akira Fukukita, Tomoo Saito, and Keiji Shiba; 130(4), 430-6 (2004).
Benchmark Problem for Response Control of Wind-Excited Tall Buildings. — Jann N. Yang, Anil K. Agrawal, Bijan Samali, and Jong-Cheng Wu; 130(4), 437-46 (2004).
Wind Response Control of Building with Variable Stiffness Tuned Mass Damper Using Empirical Mode Decomposition/Hilbert Transform. — Nadathur Varadarajan and Satish Nagarajaiah; 130(4), 451-8 (2004).
Model Predictive Control of Wind-Excited Building: Benchmark Study. — Gang Mei, Ahsan Kareem, and Jeffrey C. Kantor; 130(4), 459-65 (2004).
Linear Multiobjective Control Strategies for Wind-Excited Buildings. — Jann N. Yang, Silian Lin, and Faryar Jabbari; 130(4), 471-7 (2004).
Controlling Wind Response through a Fuzzy Controller. — M. Battaini, F. Casciati, and L. Faravelli; 130(4), 486-91 (2004).
Modified Sliding Mode Control for Wind-Excited Benchmark Problem. — Jong-Cheng Wu and Jann N. Yang; 130(4), 499-504 (2004).
Linear Quadratic Gaussian-Alpha Control with Relative Stability and Gain Parameter for the Structural Benchmark Problems. — Sheng-Guo Wang; 130(4), 511-7 (2004).
Study on Sinusoidal Reference Strategy-Based

Adaptive Feedforward Control Applied to Benchmark Wind-Excited Building. — Fujun Peng, Ming Gu, and Hans-Jürgen Niemann; 130(4), 518-23 (2004).
Adaptive Feedback–Feedforward Control of Building Structures. — Tian-Wei Ma and Henry T. Y. Yang; 130(7), 786-93 (2004).
Scheduled Controllers for Buildings under Seismic Excitation with Limited Actuator Capacity. — Jin-Hoon Kim and F. Jabbari; 130(7), 800-8 (2004).

Structural dynamics
Optimal Neurocontroller for Nonlinear Benchmark Structure. — Dong-Hyawn Kim, Seung-Nam Seo, and In-Won Lee; 130(4), 424-9 (2004).

Structural failures
Probabilistic Failure Analysis by Importance Sampling Markov Chain Simulation. — S. K. Au; 130(3), 303-11 (2004).
Reliability Analysis Using Parabolic Failure Surface Approximation. — S. Adhikari; 130(12), 1407-27 (2004).

Structural reliability
Damage Detection Utilizing the Damage Index Method to a Benchmark Structure. — Luciana R. Barroso and Ramses Rodriguez; 130(2), 142-51 (2004).
Reliability of Uncertain Inelastic Structures under Earthquake Excitation. — Paolo Franchin; 130(2), 180-91 (2004).
Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).
Reliability Analysis Using Parabolic Failure Surface Approximation. — S. Adhikari; 130(12), 1407-27 (2004).

Structural safety
Phase I IASC-ASCE Structural Health Monitoring Benchmark Problem Using Simulated Data. — E. A. Johnson, H. F. Lam, L. S. Katafygiotis, and J. L. Beck; 130(1), 3-15 (2004).
Two-Stage Structural Health Monitoring Approach for Phase I Benchmark Studies. — Ka-Veng Yuen, Siu Kui Au, and James L. Beck; 130(1), 16-33 (2004).
Application of a Statistical Model Updating Approach on Phase I of the IASC-ASCE Structural Health Monitoring Benchmark Study. — H. F. Lam, L. S. Katafygiotis, and N. C. Mickleborough; 130(1), 34-48 (2004).
Natural Excitation Technique and Eigensystem Realization Algorithm for Phase I of the IASC-ASCE Benchmark Problem: Simulated Data. — Juan Martin Caicedo, Shirley J. Dyke, and Erik A. Johnson; 130(1), 49-60 (2004).
Hilbert-Huang Based Approach for Structural Damage Detection. — J. N. Yang, Y. Lei, S. Lin, and N. Huang; 130(1), 85-95 (2004).
Structural Damage Detection Using Empirical Mode Decomposition: Experimental Investigation. — Y. L. Xu and J. Chen; 130(11), 1279-88 (2004).

Struts
Stability of Composite and Sandwich Struts by Mixed Formulation. — J. B. Dafedar and Y. M. Desai; 130(7), 762-70 (2004).

Submerged jets
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Supports
Wave Propagation and Mode Localization in Simply Supported Multispan Beams with Couplers on Supports. — Dong-Ok Kim, Byoung-Wan Kim, Jong-Heon Lee, and In-Won Lee; 130(7), 747-52 (2004).

Surface energy
Separation of Scales in Fracture Mechanics: From Molecular to Continuum Theory via Γ Convergence. — M. S. Gelli and G. F. Royer-Carfagni; 130(2), 204-15 (2004).
Use of *M* Integral for Rubbery Material Problems Containing Multiple Defects. — Jui-Hung Chang and Deh-Jun Peng; 130(5), 589-98 (2004).

Tailwater
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Tall structures
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Temperature
Energy Equation for Volatile Liquid Transport in Porous Media. — Lyle Prunty; 130(3), 259-66 (2004).
Thermal Postbuckling of Laminated Composite Plates with Temperature Dependent Properties. — K. K. Shukla, J. H. Huang, and Y. Nath; 130(7), 818-25 (2004).

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Thermal factors
Thermal Postbuckling of Laminated Composite Plates with Temperature Dependent Properties. — K. K. Shukla, J. H. Huang, and Y. Nath; 130(7), 818-25 (2004).
Postbuckling of Axially Loaded Functionally Graded Cylindrical Panels with Piezoelectric Actuators in Thermal Environments. — Hui-Shen Shen and K. M. Liew; 130(8), 982-95 (2004).

Thermodynamics
Temperature Effect on Concrete Creep Modeled by Microprestress-Solidification Theory. — Zdeněk P. Bažant, Gianluca Cusatis, and Luigi Cedolin; 130(6), 691-9 (2004).

Thermoelasticity
Asymptotic Approach for Thermoelastic Analysis of Laminated Composite Plates. — Wenbin Yu and Dewey H. Hodges; 130(5), 531-40 (2004).

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Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).

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Model Selection Using Response Measurements: Bayesian Probabilistic Approach. — James L. Beck and Ka-Veng Yuen; 130(2), 192-203 (2004).

Towers
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Traffic
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. I: Source Model. — Lincy Pyl, Geert Degrande, Geert Lombaert, and Wim Haegeman; 130(12), 1377-93 (2004).
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. II: Receiver Model. — Lincy Pyl, Geert Degrande, and Didier Clouteau; 130(12), 1394-406 (2004).

Transition points
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Triaxial loads
Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).

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Concrete Subjected to Triaxial Stress States: Application to Pull-Out Analyses. — Peter Pivonka, Roman Lackner, and Herbert A. Mang; 130(12), 1486-98 (2004).

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Characterization of Failure in Cross-Anisotropic Soils. — Andrei V. Abelev and Poul V. Lade; 130(5), 599-606 (2004).
Instability and Static Liquefaction on Proportional Strain Paths for Sand at Low Stresses. — Laurent Lancelot, Isam Shahrour, and Marwan Al Mahmoud; 130(11), 1365-72 (2004).

Tunnels
Time-Domain Boundary Element Method for Underground Structures in Orthotropic Media. — Zhang Chuhan, Ren Yuntao, O. A. Pekau, and Jin Feng; 130(1), 105-16 (2004).

Turbulence
Fluid–Solid Interaction in Particle-Laden Flows. — Q. Q. Liu and V. P. Singh; 130(12), 1476-85 (2004).

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Experiments on Unsteady Turbulent Pipe Flow. — John P. Viola and Hans J. Leutheusser; 130(2), 240-4 (2004).

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Fluid–Solid Interaction in Particle-Laden Flows. — Q. Q. Liu and V. P. Singh; 130(12), 1476-85 (2004).

Uncertainty principles
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Underground structures
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Unsaturated soils
Numerical Investigation of Effects of Water Saturation on Blast Wave Propagation in Soil Mass. — Zhongqi Wang, Yong Lu, and Hong Hao; 130(5), 551-61 (2004).
Hysteresis of Capillary Stress in Unsaturated Granular Soil. — William J. Likos and Ning Lu; 130(6), 646-55 (2004).

Unsteady flow
Experiments on Unsteady Turbulent Pipe Flow. — John P. Viola and Hans J. Leutheusser; 130(2), 240-4 (2004).

Variability
Nonconforming Variable-Node Axisymmetric Solid Element. — Chang-Koon Choi and Eun-Jin Lee; 130(5), 578-88 (2004).

Vector analysis
Description and Simulation of Nonstationary Processes Based on Hilbert Spectra. — Y. K. Wen and Ping Gu; 130(8), 942-51 (2004).

Vehicle impacts
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. I: Source Model. — Lincy Pyl, Geert Degrande, Geert Lombaert, and Wim Haegeman; 130(12), 1377-93 (2004).

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Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. II: Receiver Model. — Lincy Pyl, Geert Degrande, and Didier Clouteau; 130(12), 1394-406 (2004).

Velocity
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Evaluation of Peak Ground Velocity as a "Good" Intensity Measure for Near-Source Ground Motions. — Nicos Makris and Cameron J. Black; 130(9), 1032-44 (2004).
Fluid–Solid Interaction in Particle-Laden Flows. — Q. Q. Liu and V. P. Singh; 130(12), 1476-85 (2004).

Vibration
Flexibility Based Approach for Damage Characterization: Benchmark Application. — Dionisio Bernal and Burcu Gunes; 130(1), 61-70 (2004).
Exploring the Use of Three-Dimensional Dispersion to Damp Building Vibrations. — Keith MacBain and William R. Spillers; 130(3), 312-9 (2004).
Natural Vibrations of Laminated and Sandwich Plates. — M. K. Rao, K. Scherbatiuk, Y. M. Desai, and A. H. Shah; 130(11), 1268-78 (2004).
Structural Damage Detection Using Empirical Mode Decomposition: Experimental Investigation. — Y. L. Xu and J. Chen; 130(11), 1279-88 (2004).
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. I: Source Model. — Lincy Pyl, Geert Degrande, Geert Lombaert, and Wim Haegeman; 130(12), 1377-93 (2004).
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. II: Receiver Model. — Lincy Pyl, Geert Degrande, and Didier Clouteau; 130(12), 1394-406 (2004).
Moving Least-Squares Differential Quadrature Method for Free Vibration of Antisymmetric Laminates. — Q. S. Li and Y. Q. Huang; 130(12), 1447-57 (2004).

Vibration analysis
Application of Wavelet Approach for ASCE Structural Health Monitoring Benchmark Studies. — Adriana Hera and Zhikun Hou; 130(1), 96-104 (2004).
Recurrent Single Delaminated Beam Model for Vibration Analysis of Multidelaminated Beams. — Taehyo Park, Sunghee Lee, and George Z. Voyiadjis; 130(9), 1072-82 (2004).

Vibration control
Exploring the Use of Three-Dimensional Dispersion to Damp Building Vibrations. — Keith MacBain and William R. Spillers; 130(3), 312-9 (2004).
Multiobjective Optimal Fuzzy Logic Controller Driven Active and Hybrid Control Systems for Seismically Excited Nonlinear Buildings. — A. S. Ahlawat and A. Ramaswamy; 130(4), 416-23 (2004).
Control Effect for 20-Story Benchmark Building Using Passive or Semiactive Device. — Akira Fukukita, Tomoo Saito, and Keiji Shiba; 130(4), 430-6 (2004).
Vibration Control of the Wind-Excited 76-Story Benchmark Building by Liquid Column Vibration Absorbers. — B. Samali, E. Mayol, K. C. S. Kwok, A. Mack, and P. Hitchcock; 130(4), 478-85 (2004).
Active Control of Cross Wind Response of 76-Story Tall Building Using a Fuzzy Controller. — Bijan Samali, Mohammed Al-Dawod, Kenny C. S. Kwok, and Fazel Naghdy; 130(4), 492-8 (2004).
Vibration Control of Wind-Excited Tall Buildings Using Sliding Mode Fuzzy Control. — Saang Bum Kim, Chung-Bang Yun, and B. F. Spencer, Jr.; 130(4), 505-10 (2004).
Study on Sinusoidal Reference Strategy-Based Adaptive Feedforward Control Applied to Benchmark Wind-Excited Building. — Fujun Peng, Ming Gu, and Hans-Jürgen Niemann; 130(4), 518-23 (2004).
Multiobjective Optimal Fuzzy Logic Control System for Response Control of Wind-Excited Tall Buildings. — A. S. Ahlawat and A. Ramaswamy; 130(4), 524-30 (2004).
Dynamic Modeling of Large-Scale Magnetorheological Damper Systems for Civil Engineering Applications. — Guangqiang Yang, Billie F. Spencer, Jr., Hyung-Jo Jung, and J. David Carlson; 130(9), 1107-14 (2004).

Vibration design
Robust Control for Structural Systems with Unstructured Uncertainties. — Sheng-Guo Wang, Paul N. Roschke, and H. Y. Yeh; 130(3), 337-46 (2004).

Vibration measurement
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).

Viscoelasticity
Temperature Effect on Concrete Creep Modeled by Microprestress-Solidification Theory. — Zdeněk P. Bažant, Gianluca Cusatis, and Luigi Cedolin; 130(6), 691-9 (2004).
Random Vibration of Systems with Viscoelastic Memory. — A. Palmeri, F. Ricciardelli, G. Muscolino, and A. De Luca; 130(9), 1052-61 (2004).
Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).

Viscoplasticity
Modeling and Simulation of Porous Elastoviscoplastic Material. — Kevin K. Tseng; 130(5), 547-50 (2004).

Walls
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Modeling Masonry Shear-Compression: Role of Dilatancy Highlighted. — Gideon P. A. G. van Zijl; 130(11), 1289-96 (2004).

Water content
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Water flow
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Wave forces
Stochastic Analysis of a Single-Degree-of-Freedom Nonlinear Experimental Moored System Using an Independent-Flow-Field Model. — H. Lin and S. C. S. Yim; 130(2), 161-9 (2004).

Wave propagation
Time-Domain Boundary Element Method for Underground Structures in Orthotropic Media. — Zhang Chuhan, Ren Yuntao, O. A. Pekau, and Jin Feng; 130(1), 105-16 (2004).
Shallow Water Wave Propagation in Convectively Accelerating Open-Channel Flow Induced by the Tailwater Effect. — Christina W. Tsai and Ben C. Yen; 130(3), 320-36 (2004).
Numerical Investigation of Effects of Water Saturation on Blast Wave Propagation in Soil Mass. — Zhongqi Wang, Yong Lu, and Hong Hao; 130(5), 551-61 (2004).
Wave Propagation and Mode Localization in Simply Supported Multispan Beams with Couplers on Supports. — Dong-Ok Kim, Byoung-Wan Kim, Jong-Heon Lee, and In-Won Lee; 130(7), 747-52 (2004).

Wind
Linear Quadratic Gaussian-Alpha Control with Relative Stability and Gain Parameter for the Structural Benchmark Problems. — Sheng-Guo Wang; 130(4), 511-7 (2004).

Wind effects
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Model Predictive Control of Wind-Excited Building: Benchmark Study. — Gang Mei, Ahsan Kareem, and Jeffrey C. Kantor; 130(4), 459-65 (2004).
Generalized Linear Quadratic Gaussian Techniques for the Wind Benchmark Problem. — K. D. Pham, G. Jin, M. K. Sain, B. F. Spencer, Jr., and S. R. Liberty; 130(4), 466-70 (2004).
Multiobjective Optimal Fuzzy Logic Control System for Response Control of Wind-Excited Tall Buildings. — A. S. Ahlawat and A. Ramaswamy; 130(4), 524-30 (2004).
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Vibration Control of the Wind-Excited 76-Story Benchmark Building by Liquid Column Vibration Absorbers. — B. Samali, E. Mayol, K. C. S. Kwok, A. Mack, and P. Hitchcock; 130(4), 478-85 (2004).
Active Control of Cross Wind Response of 76-Story Tall Building Using a Fuzzy Controller. — Bijan Samali, Mohammed Al-Dawod, Kenny C. S. Kwok, and Fazel Naghdy; 130(4), 492-8 (2004).
Study on Sinusoidal Reference Strategy-Based Adaptive Feedforward Control Applied to Benchmark Wind-Excited Building. — Fujun Peng, Ming Gu, and Hans-Jürgen Niemann; 130(4), 518-23 (2004).
Wind loads
Wind Tunnel Tests for Wind-Excited Benchmark Building. — B. Samali, K. C. S. Kwok, G. S. Wood, and J. N. Yang; 130(4), 447-50 (2004).
Wind Response Control of Building with Variable Stiffness Tuned Mass Damper Using Empirical Mode Decomposition/Hilbert Transform. — Nadathur Varadarajan and Satish Nagarajaiah; 130(4), 451-8 (2004).
Linear Multiobjective Control Strategies for Wind-Excited Buildings. — Jann N. Yang, Silian Lin, and Faryar Jabbari; 130(4), 471-7 (2004).
Vibration Control of Wind-Excited Tall Buildings Using Sliding Mode Fuzzy Control. — Saang Bum Kim, Chung-Bang Yun, and B. F. Spencer, Jr.; 130(4), 505-10 (2004).
Identification of Natural Frequencies and Dampings of In Situ Tall Buildings Using Ambient Wind Vibration Data. — Jann N. Yang, Ying Lei, Silian Lin, and Norden Huang; 130(5), 570-7 (2004).
Wind tunnel tests
Wind Tunnel Tests for Wind-Excited Benchmark Building. — B. Samali, K. C. S. Kwok, G. S. Wood, and J. N. Yang; 130(4), 447-50 (2004).
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Geometrically Nonlinear Buffeting Response of a Cable-Stayed Bridge. — Ho-Kyung Kim, Masanobu Shinozuka, and Sung-Pil Chang; 130(7), 848-57 (2004).
Yield
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Yield surface
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Abe, Masato
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Continuum Mechanics of Lateral Soil–Pile Interaction. — Farzad Abedzadeh and Ronald Y. S. Pak; 130(11), 1309-18 (2004).

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Characterization of Failure in Cross-Anisotropic Soils. — Andrei V. Abelev and Poul V. Lade; 130(5), 599-606 (2004).

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Earth Dam on Liquefiable Foundation and Remediation: Numerical Simulation of Centrifuge Experiments. — Zhaohui Yang, Ahmed Elgamal, Korhan Adalier, and Michael K. Sharp; 130(10), 1168-76 (2004).

Adhikari, S.
Reliability Analysis Using Parabolic Failure Surface Approximation. — S. Adhikari; 130(12), 1407-27 (2004).

Agrawal, Anil K.
Benchmark Problem for Response Control of Wind-Excited Tall Buildings. — Jann N. Yang, Anil K. Agrawal, Bijan Samali, and Jong-Cheng Wu; 130(4), 437-46 (2004).

Ahlawat, A. S.
Multiobjective Optimal Fuzzy Logic Controller Driven Active and Hybrid Control Systems for Seismically Excited Nonlinear Buildings. — A. S. Ahlawat and A. Ramaswamy; 130(4), 416-23 (2004).
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Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).
Active Control of Cross Wind Response of 76-Story Tall Building Using a Fuzzy Controller. — Bijan Samali, Mohammed Al-Dawod, Kenny C. S. Kwok, and Fazel Naghdy; 130(4), 492-8 (2004).

Al Mahmoud, Marwan
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Anandarajah, A.
Sliding and Rolling Constitutive Theory for Granular Materials. — A. Anandarajah; 130(6), 665-80 (2004).

Anandarajah, A. Rajah
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Aristizábal-Ochoa, J. Darío
Large Deflection Stability of Slender Beam-Columns with Semirigid Connections: Elastica Approach. — J. Darío Aristizábal-Ochoa; 130(3), 274-82 (2004).
Column Stability and Minimum Lateral Bracing: Effects of Shear Deformations. — J. Darío Aristizábal-Ochoa; 130(10), 1223-32 (2004).

Aristizabal-Ochoa, J. Dario
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Discussion of "Effect of Base Fixity on Buckling of Heavy Column with End Load" by C. Y. Wang. — J. Dario Aristizabal-Ochoa; 130(2), 247 (2004).
Timoshenko Beam-Column with Generalized End Conditions and Nonclassical Modes of Vibration of Shear Beams. — J. Dario Aristizabal-Ochoa; 130(10), 1151-9 (2004).

Arwade, Sanjay R.
Probabilistic Model for Polycrystalline Microstructures with Application to Intergranular Fracture. — Sanjay R. Arwade and Mircea Grigoriu; 130(9), 997-1005 (2004).

Au, S. K.
Probabilistic Failure Analysis by Importance Sampling Markov Chain Simulation. — S. K. Au; 130(3), 303-11 (2004).

Au, Siu Kui
Two-Stage Structural Health Monitoring Approach for Phase I Benchmark Studies. — Ka-Veng Yuen, Siu Kui Au, and James L. Beck; 130(1), 16-33 (2004).

Aung, Tun Myint
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Bagi, Katalin
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Barroso, Luciana R.
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Controlling Wind Response through a Fuzzy Controller. — M. Battaini, F. Casciati, and L. Faravelli; 130(4), 486-91 (2004).

Baylot, James T.
Modeling Concrete Masonry Walls Subjected to Explosive Loads. — Christopher D. Eamon, James T. Baylot, and James L. O'Daniel; 130(9), 1098-106 (2004).

Bažant, Zdeněk P.
Temperature Effect on Concrete Creep Modeled by Microprestress-Solidification Theory. — Zdeněk P. Bažant, Gianluca Cusatis, and Luigi Cedolin; 130(6), 691-9 (2004).

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Bayesian Analysis of the Phase II IASC–ASCE Structural Health Monitoring Experimental Benchmark Data. — J. Ching and J. L. Beck; 130(10), 1233-44 (2004).

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Preface to the Special Issue on Phase I of the IASC-ASCE Structural Health Monitoring Benchmark. — Dionisio Bernal and James Beck; 130(1), 1-2 (2004).

Beck, James L.
Two-Stage Structural Health Monitoring Approach for Phase I Benchmark Studies. — Ka-Veng Yuen, Siu Kui Au, and James L. Beck; 130(1), 16-33 (2004).
Model Selection Using Response Measurements: Bayesian Probabilistic Approach. — James L. Beck and Ka-Veng Yuen; 130(2), 192-203 (2004).

Bernal, Dionisio
Preface to the Special Issue on Phase I of the IASC-ASCE Structural Health Monitoring Benchmark. — Dionisio Bernal and James Beck; 130(1), 1-2 (2004).
Flexibility Based Approach for Damage Characterization: Benchmark Application. — Dionisio Bernal and Burcu Gunes; 130(1), 61-70 (2004).
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Betti, Raimondo
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Bray, Jonathan D.
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Brown, David L.
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Cacciola, P.
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Caicedo, Juan Martin
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Experimentally Validated Added Mass Identification Algorithm Based on Frequency Response Functions. — Paul J. Fanning and E. Peter Carden; 130(9), 1045-51 (2004).

Carlson, J. David
Dynamic Modeling of Large-Scale Magnetorheological Damper Systems for Civil Engineering Applications. — Guangqiang Yang, Billie F. Spencer, Jr., Hyung-Jo Jung, and J. David Carlson; 130(9), 1107-14 (2004).

Casciati, F.
Controlling Wind Response through a Fuzzy Controller. — M. Battaini, F. Casciati, and L. Faravelli; 130(4), 486-91 (2004).

Catbas, F. Necati
Parameter Estimation for Multiple-Input Multiple-Output Modal Analysis of Large Structures. — F. Necati Catbas, David L. Brown, and A. Emin Aktan; 130(8), 921-30 (2004).

Cecchi, Antonella
Glass Fiber Reinforced Polymer Pultruded Members: Constitutive Model and Stability Analysis. — Antonella Cecchi and Roberto Di Marco; 130(8), 961-70 (2004).

Cedolin, Luigi
Temperature Effect on Concrete Creep Modeled by Microprestress-Solidification Theory. — Zdeněk P. Bažant, Gianluca Cusatis, and Luigi Cedolin; 130(6), 691-9 (2004).

Chabot, Armelle
Continuum Damage Approach to Asphalt Concrete Fatigue Modeling. — Didier Bodin, Gilles Pijaudier-Cabot, Chantal de La Roche, Jean-Michel Piau, and Armelle Chabot; 130(6), 700-8 (2004).

Challa, Vennela
Conditions for Compaction Band Formation in Porous Rock Using a Two-Yield Surface Model. — Vennela Challa and Kathleen A. Issen; 130(9), 1089-97 (2004).

Chang, Ching S.
Modeling Failure and Deformation of an Assembly of Spheres with Frictional Contacts. — Akke S. J. Suiker and Ching S. Chang; 130(3), 283-93 (2004).

Chang, Jui-Hung
Use of *M* Integral for Rubbery Material Problems Containing Multiple Defects. — Jui-Hung Chang and Deh-Jun Peng; 130(5), 589-98 (2004).

Chang, Sung-Pil
Geometrically Nonlinear Buffeting Response of a Cable-Stayed Bridge. — Ho-Kyung Kim, Masanobu Shinozuka, and Sung-Pil Chang; 130(7), 848-57 (2004).

Chen, Chaoqiang
Semiactive Control of the 20-Story Benchmark Building with Piezoelectric Friction Dampers. — Genda Chen and Chaoqiang Chen; 130(4), 393-400 (2004).

Chen, Genda
Semiactive Control of the 20-Story Benchmark Building with Piezoelectric Friction Dampers. — Genda Chen and Chaoqiang Chen; 130(4), 393-400 (2004).

Chen, J.
Structural Damage Detection Using Empirical Mode Decomposition: Experimental Investigation. — Y. L. Xu and J. Chen; 130(11), 1279-88 (2004).

Chen, Jen-San
Effects of Prescribed End Motion on the Dynamic Stability of a Shallow Arch on an Elastic Foundation. — Jen-San Chen and Jian-San Lin; 130(3), 359-62 (2004).

Chen, Jian
Rigid Finite Element Method for Upper Bound Limit Analysis of Soil Slopes Subjected to Pore Water Pressure. — Jian Chen, Jian-Hua Yin, and C. F. Lee; 130(8), 886-93 (2004).

Chen, X. W.
Transition from Nondeformable Projectile Penetration to Semihydrodynamic Penetration. — X. W. Chen and Q. M. Li; 130(1), 123-7 (2004).

Chen, Yangbo
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).

Ching, J.
Bayesian Analysis of the Phase II IASC–ASCE Structural Health Monitoring Experimental Benchmark Data. — J. Ching and J. L. Beck; 130(10), 1233-44 (2004).

Cho, Yong-Sik
Weighted Averaged Flux-Type Scheme for Shallow-Water Equations with Fractional Step Method. — Dae-Hong Kim, Yong-Sik Cho, and Woo-Gu Kim; 130(2), 152-60 (2004).

Choi, Chang-Koon
Nonconforming Variable-Node Axisymmetric Solid Element. — Chang-Koon Choi and Eun-Jin Lee; 130(5), 578-88 (2004).

Choi, Jun-Seong
Identification of the Soil–Structure Interaction System Using Earthquake Response Data. — Jun-Seong Choi, Jong-Seh Lee, and Chung-Bang Yun; 130(7), 753-61 (2004).

Christenson, R. E.
Benchmark Control Problems for Seismically Excited Nonlinear Buildings. — Y. Ohtori, R. E. Christenson, B. F. Spencer, Jr., and S. J. Dyke; 130(4), 366-85 (2004).

Christopoulos, Constantin
Frequency Response of Flag-Shaped Single Degree-of-Freedom Hysteretic Systems. — Constantin Christopoulos; 130(8), 894-903 (2004).

Chuhan, Zhang
Time-Domain Boundary Element Method for Underground Structures in Orthotropic Media. — Zhang Chuhan, Ren Yuntao, O. A. Pekau, and Jin Feng; 130(1), 105-16 (2004).

Clouteau, Didier
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. II: Receiver Model. — Lincy Pyl, Geert Degrande, and Didier Clouteau; 130(12), 1394-406 (2004).

Corona, Edmundo
Degradation and Buckling of I-Beams under Cyclic Pure Bending. — Shengjun Yin, Edmundo Corona, and Mark S. Ellison; 130(7), 809-17 (2004).

Cusatis, Gianluca
Temperature Effect on Concrete Creep Modeled by Microprestress-Solidification Theory. — Zdeněk P. Bažant, Gianluca Cusatis, and Luigi Cedolin; 130(6), 691-9 (2004).

Dafalias, Yannis F.
Simple Plasticity Sand Model Accounting for Fabric Change Effects. — Yannis F. Dafalias and Majid T. Manzari; 130(6), 622-34 (2004).
Sand Plasticity Model Accounting for Inherent Fabric Anisotropy. — Yannis F. Dafalias, Achilleas G. Papadimitriou, and Xiang S. Li; 130(11), 1319-33 (2004).

Dafedar, J. B.
Stability of Composite and Sandwich Struts by Mixed Formulation. — J. B. Dafedar and Y. M. Desai; 130(7), 762-70 (2004).

Daneshmand, Farhang
Dynamic Analysis of a Gate–Fluid System. — Farhang Daneshmand, Shailendra K. Sharan, and Mohammad H. Kadivar; 130(12), 1458-66 (2004).

da Silva, Ana Rita C.
Probabilistic Approach to Predict Cracking in Lightly Reinforced Microconcrete Panels. — Ana Rita C. da Silva, Sergio P. B. Proença, René Billardon, and François Hild; 130(8), 931-41 (2004).

Daudeville, Laurent
Identification and Validation of a Discrete Element Model for Concrete. — Sébastien Hentz, Laurent Daudeville, and Frédéric V. Donzé; 130(6), 709-19 (2004).

Davis, Allen G.
Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).

De Angelis, Maurizio
Investigation of a System Identification Methodology in the Context of the ASCE Benchmark Problem. — Hilmi Luş, Raimondo Betti, Jun Yu, and Maurizio De Angelis; 130(1), 71-84 (2004).

De Flaviis, Franco
Microwave Subsurface Imaging Technology for Damage Detection. — Yoo Jin Kim, Luis Jofre, Franco De Flaviis, and Maria Q. Feng; 130(7), 858-66 (2004).

Degrande, Geert
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. I: Source Model. — Lincy Pyl, Geert Degrande, Geert Lombaert, and Wim Haegeman; 130(12), 1377-93 (2004).
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. II: Receiver Model. — Lincy Pyl, Geert Degrande, and Didier Clouteau; 130(12), 1394-406 (2004).

de La Roche, Chantal
Continuum Damage Approach to Asphalt Concrete Fatigue Modeling. — Didier Bodin, Gilles Pijaudier-Cabot, Chantal de La Roche, Jean-Michel Piau, and Armelle Chabot; 130(6), 700-8 (2004).

De Luca, A.
Random Vibration of Systems with Viscoelastic Memory. — A. Palmeri, F. Ricciardelli, G. Muscolino, and A. De Luca; 130(9), 1052-61 (2004).

Desai, Y. M.
Stability of Composite and Sandwich Struts by Mixed Formulation. — J. B. Dafedar and Y. M. Desai; 130(7), 762-70 (2004).
Natural Vibrations of Laminated and Sandwich Plates. — M. K. Rao, K. Scherbatiuk, Y. M. Desai, and A. H. Shah; 130(11), 1268-78 (2004).

Deschapelles, Bernardo
Discussion of "Effect of Base Fixity on Buckling of Heavy Column with End Load" by C. Y. Wang. — Bernardo Deschapelles; 130(2), 248 (2004).

Dey, Subhasish
Sediment Threshold with Upward Seepage. — Subhasish Dey and Ulrich C. E. Zanke; 130(9), 1118-23 (2004).

Di Marco, Roberto
Glass Fiber Reinforced Polymer Pultruded Members: Constitutive Model and Stability Analysis. — Antonella Cecchi and Roberto Di Marco; 130(8), 961-70 (2004).

Diniz, Sofia
Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).

Di Paola, Mario
An Integral Equation for Damage Identification of Euler-Bernoulli Beams under Static Loads. — Mario Di Paola and Cristiano Bilello; 130(2), 225-34 (2004).

Donzé, Frédéric V.
Identification and Validation of a Discrete Element Model for Concrete. — Sébastien Hentz, Laurent Daudeville, and Frédéric V. Donzé; 130(6), 709-19 (2004).

Doolin, David M.
Time Integration in Discontinuous Deformation Analysis. — David M. Doolin and Nicholas Sitar; 130(3), 249-58 (2004).

Dyke, S. J.
Benchmark Control Problems for Seismically Excited Nonlinear Buildings. — Y. Ohtori, R. E. Christenson, B. F. Spencer, Jr., and S. J. Dyke; 130(4), 366-85 (2004).

Dyke, Shirley J.
Natural Excitation Technique and Eigensystem Realization Algorithm for Phase I of the IASC-ASCE Benchmark Problem: Simulated Data. — Juan Martin Caicedo, Shirley J. Dyke, and Erik A. Johnson; 130(1), 49-60 (2004).
Seismic Control of a Nonlinear Benchmark Building Using Smart Dampers. — Osamu Yoshida and Shirley J. Dyke; 130(4), 386-92 (2004).

Ead, S. A.
Plane Turbulent Wall Jets on Rough Boundaries with Limited Tailwater. — S. A. Ead and N. Rajaratnam; 130(10), 1245-50 (2004).

Eamon, Christopher D.
Modeling Concrete Masonry Walls Subjected to Explosive Loads. — Christopher D. Eamon, James T. Baylot, and James L. O'Daniel; 130(9), 1098-106 (2004).

Elgamal, Ahmed
Earth Dam on Liquefiable Foundation and Remediation: Numerical Simulation of Centrifuge Experiments. — Zhaohui Yang, Ahmed Elgamal, Korhan Adalier, and Michael K. Sharp; 130(10), 1168-76 (2004).

Ellison, Mark S.
Degradation and Buckling of I-Beams under Cyclic Pure Bending. — Shengjun Yin, Edmundo Corona, and Mark S. Ellison; 130(7), 809-17 (2004).

Elsworth, Derek
Indentation of a Free-Falling Sharp Penetrometer into a Poroelastic Seabed. — Dae Sung Lee and Derek Elsworth; 130(2), 170-9 (2004).

Eskin, D.
Engineering Model of Dilute Pneumatic Conveying. — D. Eskin, Y. Leonenko, and O. Vinogradov; 130(7), 794-9 (2004).

Failla, Giuseppe
Evolutionary Spectra Estimation Using Wavelets. — Pol D. Spanos and Giuseppe Failla; 130(8), 952-60 (2004).

Fanning, Paul J.
Experimentally Validated Added Mass Identification Algorithm Based on Frequency Response Functions. — Paul J. Fanning and E. Peter Carden; 130(9), 1045-51 (2004).

Faravelli, L.
Controlling Wind Response through a Fuzzy Controller. — M. Battaini, F. Casciati, and L. Faravelli; 130(4), 486-91 (2004).

Feng, Jin
Time-Domain Boundary Element Method for Underground Structures in Orthotropic Media. — Zhang Chuhan, Ren Yuntao, O. A. Pekau, and Jin Feng; 130(1), 105-16 (2004).

Feng, Maria Q.
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).
Microwave Subsurface Imaging Technology for Damage Detection. — Yoo Jin Kim, Luis Jofre, Franco De Flaviis, and Maria Q. Feng; 130(7), 858-66 (2004).

Franchin, Paolo
Reliability of Uncertain Inelastic Structures under Earthquake Excitation. — Paolo Franchin; 130(2), 180-91 (2004).

Franco, Guillermo
Identification of Structural Systems Using an Evolutionary Strategy. — Guillermo Franco, Raimondo Betti, and Hilmi Luş; 130(10), 1125-39 (2004).

Frostig, Y.
Delamination Effects in Reinforced Concrete Slabs Strengthened with Circular Composite Patches. — O. Rabinovitch and Y. Frostig; 130(12), 1436-46 (2004).

Frostig, Yeoshua
High-Order Analysis of Reinforced Concrete Slabs Strengthened with Circular Composite Laminated Patches of General Layup. — Oded Rabinovitch and Yeoshua Frostig; 130(11), 1334-45 (2004).

Fujino, Yozo
Constitutive Model of High-Damping Rubber Materials. — Junji Yoshida, Masato Abe, and Yozo Fujino; 130(2), 129-41 (2004).
Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).

Fukukita, Akira
Control Effect for 20-Story Benchmark Building Using Passive or Semiactive Device. — Akira Fukukita, Tomoo Saito, and Keiji Shiba; 130(4), 430-6 (2004).

Gelli, M. S.
Separation of Scales in Fracture Mechanics: From Molecular to Continuum Theory via Γ Convergence. — M. S. Gelli and G. F. Royer-Carfagni; 130(2), 204-15 (2004).

Ghaboussi, Jamshid
Estimation of Aeroelastic Parameters of Bridge Decks Using Neural Networks. — Sungmoon Jung, Jamshid Ghaboussi, and Soon-Duck Kwon; 130(11), 1356-64 (2004).

Gioffrè, Massimiliano
Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).

Grigoriu, Mircea
Spectral Representation for a Class of Non-Gaussian Processes. — Mircea Grigoriu; 130(5), 541-6 (2004).
Probabilistic Model for Polycrystalline Microstructures with Application to Intergranular Fracture. — Sanjay R. Arwade and Mircea Grigoriu; 130(9), 997-1005 (2004).

Gu, Ming
Study on Sinusoidal Reference Strategy-Based Adaptive Feedforward Control Applied to Benchmark Wind-Excited Building. — Fujun Peng, Ming Gu, and Hans-Jürgen Niemann; 130(4), 518-23 (2004).

Gu, Ping
Description and Simulation of Nonstationary Processes Based on Hilbert Spectra. — Y. K. Wen and Ping Gu; 130(8), 942-51 (2004).

Güler, Kadir
Circular Elastic Plate Resting on Tensionless Pasternak Foundation. — Kadir Güler; 130(10), 1251-4 (2004).

Gunes, Burcu
Flexibility Based Approach for Damage Characterization: Benchmark Application. — Dionisio Bernal and Burcu Gunes; 130(1), 61-70 (2004).

Güney, İbrahim
Analytical Solution of Direct Dynamics Problem in Cylindrical Coordinates. — Yaşar Pala, İbrahim Güney, and Gültekin Karadere; 130(9), 1115-7 (2004).

Guo, Pei J.
Stress Dilatancy and Fabric Dependencies on Sand Behavior. — Richard G. Wan and Pei J. Guo; 130(6), 635-45 (2004).

Haegeman, Wim
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. I: Source Model. — Lincy Pyl, Geert Degrande, Geert Lombaert, and Wim Haegeman; 130(12), 1377-93 (2004).

Haldar, Achintya
Element Level System Identification with Unknown Input with Rayleigh Damping. — Xiaolin Ling and Achintya Haldar; 130(8), 877-85 (2004).

Hao, Hong
Numerical Investigation of Effects of Water Saturation on Blast Wave Propagation in Soil Mass. — Zhongqi Wang, Yong Lu, and Hong Hao; 130(5), 551-61 (2004).

Harries, Kent A.
Investigation of Bond between Fiber Reinforced Polymer and Concrete Undergoing Global Mixed Mode I/II Loading. — Baolin Wan, Michael A. Sutton, Michael F. Petrou, Kent A. Harries, and Ning Li; 130(12), 1467-75 (2004).

Hentz, Sébastien
Identification and Validation of a Discrete Element Model for Concrete. — Sébastien Hentz, Laurent Daudeville, and Frédéric V. Donzé; 130(6), 709-19 (2004).

Hera, Adriana
Application of Wavelet Approach for ASCE Structural Health Monitoring Benchmark Studies. — Adriana Hera and Zhikun Hou; 130(1), 96-104 (2004).

Hild, François
Probabilistic Approach to Predict Cracking in Lightly Reinforced Microconcrete Panels. — Ana Rita C. da Silva, Sergio P. B. Proença, René Billardon, and François Hild; 130(8), 931-41 (2004).

Hitchcock, P.
Vibration Control of the Wind-Excited 76-Story Benchmark Building by Liquid Column Vibration Absorbers. — B. Samali, E. Mayol, K. C. S. Kwok, A. Mack, and P. Hitchcock; 130(4), 478-85 (2004).

Hodges, Ben R.
Accuracy Order of Crank–Nicolson Discretization for Hydrostatic Free-Surface Flow. — Ben R. Hodges; 130(8), 904-10 (2004).

Hodges, Dewey H.
Asymptotic Approach for Thermoelastic Analysis of Laminated Composite Plates. — Wenbin Yu and Dewey H. Hodges; 130(5), 531-40 (2004).

Hoshiya, Masaru
Stochastic Asset Pricing with Seismic Hazard Risk. — Masaru Hoshiya, Takaaki Nakamura, and Tomoya Mochizuki; 130(7), 780-5 (2004).

Hou, Zhikun
Application of Wavelet Approach for ASCE Structural Health Monitoring Benchmark Studies. — Adriana Hera and Zhikun Hou; 130(1), 96-104 (2004).

Huang, J. H.
Thermal Postbuckling of Laminated Composite Plates with Temperature Dependent Properties. — K. K. Shukla, J. H. Huang, and Y. Nath; 130(7), 818-25 (2004).

Huang, N.
Hilbert-Huang Based Approach for Structural Damage Detection. — J. N. Yang, Y. Lei, S. Lin, and N. Huang; 130(1), 85-95 (2004).

Huang, Norden
Identification of Natural Frequencies and Dampings of In Situ Tall Buildings Using Ambient Wind Vibration Data. — Jann N. Yang, Ying Lei, Silian Lin, and Norden Huang; 130(5), 570-7 (2004).

Huang, Y. Q.
Moving Least-Squares Differential Quadrature Method for Free Vibration of Antisymmetric Laminates. — Q. S. Li and Y. Q. Huang; 130(12), 1447-57 (2004).

Issen, Kathleen A.
Conditions for Compaction Band Formation in Porous Rock Using a Two-Yield Surface Model. — Vennela Challa and Kathleen A. Issen; 130(9), 1089-97 (2004).

Jabbari, F.
Scheduled Controllers for Buildings under Seismic Excitation with Limited Actuator Capacity. — Jin-Hoon Kim and F. Jabbari; 130(7), 800-8 (2004).

Jabbari, Faryar
Linear Multiobjective Control Strategies for Wind-Excited Buildings. — Jann N. Yang, Silian Lin, and Faryar Jabbari; 130(4), 471-7 (2004).

Jeremić, Boris
Numerical Assessment of the Influence of End Conditions on Constitutive Behavior of Geomaterials. — Boris Jeremić, Zhaohui Yang, and Stein Sture; 130(6), 741-5 (2004).

Jin, G.
Generalized Linear Quadratic Gaussian Techniques for the Wind Benchmark Problem. — K. D. Pham, G. Jin, M. K. Sain, B. F. Spencer, Jr., and S. R. Liberty; 130(4), 466-70 (2004).

Jirásek, Milan
Adaptive Resolution of Localized Damage in Quasi-brittle Materials. — Bořek Patzák and Milan Jirásek; 130(6), 720-32 (2004).

Jofre, Luis
Microwave Subsurface Imaging Technology for Damage Detection. — Yoo Jin Kim, Luis Jofre, Franco De Flaviis, and Maria Q. Feng; 130(7), 858-66 (2004).

Johnson, E. A.
Phase I IASC-ASCE Structural Health Monitoring Benchmark Problem Using Simulated Data. — E. A. Johnson, H. F. Lam, L. S. Katafygiotis, and J. L. Beck; 130(1), 3-15 (2004).

Johnson, Erik A.
Natural Excitation Technique and Eigensystem Realization Algorithm for Phase I of the IASC-ASCE Benchmark Problem: Simulated Data. — Juan Martin Caicedo, Shirley J. Dyke, and Erik A. Johnson; 130(1), 49-60 (2004).

Jung, Hyung-Jo
Dynamic Modeling of Large-Scale Magnetorheological Damper Systems for Civil Engineering Applications. — Guangqiang Yang, Billie F. Spencer, Jr., Hyung-Jo Jung, and J. David Carlson; 130(9), 1107-14 (2004).

Jung, Sungmoon
Estimation of Aeroelastic Parameters of Bridge Decks Using Neural Networks. — Sungmoon Jung, Jamshid Ghaboussi, and Soon-Duck Kwon; 130(11), 1356-64 (2004).

Kadivar, Mohammad H.
Dynamic Analysis of a Gate–Fluid System. — Farhang Daneshmand, Shailendra K. Sharan, and Mohammad H. Kadivar; 130(12), 1458-66 (2004).

Kaliakin, Victor N.
Constitutive Modeling of Geomaterials. — A. Rajah Anandarajah, Majid T. Manzari, and Victor N. Kaliakin; 130(6), 621 (2004).
Analyzing Dynamic Behavior of Geosynthetic-Reinforced Soil Retaining Walls. — Hoe I. Ling, Huabei Liu, Victor N. Kaliakin, and Dov Leshchinsky; 130(8), 911-20 (2004).

Kantor, Jeffrey C.
Model Predictive Control of Wind-Excited Building: Benchmark Study. — Gang Mei, Ahsan Kareem, and Jeffrey C. Kantor; 130(4), 459-65 (2004).

Karadere, Gültekin
Analytical Solution of Direct Dynamics Problem in Cylindrical Coordinates. — Yaşar Pala, İbrahim Güney, and Gültekin Karadere; 130(9), 1115-7 (2004).

Kareem, Ahsan
Model Predictive Control of Wind-Excited Building: Benchmark Study. — Gang Mei, Ahsan Kareem, and Jeffrey C. Kantor; 130(4), 459-65 (2004).

Kasperski, Michael
Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).

Katafygiotis, L. S.
Phase I IASC-ASCE Structural Health Monitoring Benchmark Problem Using Simulated Data. — E. A. Johnson, H. F. Lam, L. S. Katafygiotis, and J. L. Beck; 130(1), 3-15 (2004).
Application of a Statistical Model Updating Approach on Phase I of the IASC-ASCE Structural Health Monitoring Benchmark Study. — H. F. Lam, L. S. Katafygiotis, and N. C. Mickleborough; 130(1), 34-48 (2004).

Kausel, Eduardo
Impulse Response of Elastic Half-Space in the Wave Number–Time Domain. — Joonsang Park and Eduardo Kausel; 130(10), 1211-22 (2004).

Kim, Byoung-Wan
Wave Propagation and Mode Localization in Simply Supported Multispan Beams with Couplers on Supports. — Dong-Ok Kim, Byoung-Wan Kim, Jong-Heon Lee, and In-Won Lee; 130(7), 747-52 (2004).

Kim, Dae-Hong
Weighted Averaged Flux-Type Scheme for Shallow-Water Equations with Fractional Step Method. — Dae-Hong Kim, Yong-Sik Cho, and Woo-Gu Kim; 130(2), 152-60 (2004).

Kim, Dong-Hyawn
Optimal Neurocontroller for Nonlinear Benchmark Structure. — Dong-Hyawn Kim, Seung-Nam Seo, and In-Won Lee; 130(4), 424-9 (2004).

Kim, Dong-Ok
Wave Propagation and Mode Localization in Simply Supported Multispan Beams with Couplers on Supports. — Dong-Ok Kim, Byoung-Wan Kim, Jong-Heon Lee, and In-Won Lee; 130(7), 747-52 (2004).

Kim, Doo Kie
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).

Kim, Ho-Kyung
Geometrically Nonlinear Buffeting Response of a Cable-Stayed Bridge. — Ho-Kyung Kim, Masanobu Shinozuka, and Sung-Pil Chang; 130(7), 848-57 (2004).

Kim, Jin-Hoon
Scheduled Controllers for Buildings under Seismic Excitation with Limited Actuator Capacity. — Jin-Hoon Kim and F. Jabbari; 130(7), 800-8 (2004).

Kim, Saang Bum
Vibration Control of Wind-Excited Tall Buildings Using Sliding Mode Fuzzy Control. — Saang Bum Kim, Chung-Bang Yun, and B. F. Spencer, Jr.; 130(4), 505-10 (2004).

Kim, Woo-Gu
Weighted Averaged Flux-Type Scheme for Shallow-Water Equations with Fractional Step Method. — Dae-Hong Kim, Yong-Sik Cho, and Woo-Gu Kim; 130(2), 152-60 (2004).

Kim, Yoo Jin
Microwave Subsurface Imaging Technology for Damage Detection. — Yoo Jin Kim, Luis Jofre, Franco De Flaviis, and Maria Q. Feng; 130(7), 858-66 (2004).

Kuhn, Matthew R.
Alternative Definition of Particle Rolling in a Granular Assembly. — Matthew R. Kuhn and Katalin Bagi; 130(7), 826-35 (2004).

Kuo, Shih-Yao
Thermal Postbuckling Behavior of Composite Sandwich Plates. — Le-Chung Shiau and Shih-Yao Kuo; 130(10), 1160-7 (2004).

Kwok, K. C. S.
Wind Tunnel Tests for Wind-Excited Benchmark Building. — B. Samali, K. C. S. Kwok, G. S. Wood, and J. N. Yang; 130(4), 447-50 (2004).
Vibration Control of the Wind-Excited 76-Story Benchmark Building by Liquid Column Vibration Absorbers. — B. Samali, E. Mayol, K. C. S. Kwok, A. Mack, and P. Hitchcock; 130(4), 478-85 (2004).

Kwok, Kenny
Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).

Kwok, Kenny C. S.
Active Control of Cross Wind Response of 76-Story Tall Building Using a Fuzzy Controller. — Bijan Samali, Mohammed Al-Dawod, Kenny C. S. Kwok, and Fazel Naghdy; 130(4), 492-8 (2004).

Kwon, Soon-Duck
Estimation of Aeroelastic Parameters of Bridge Decks Using Neural Networks. — Sungmoon Jung, Jamshid Ghaboussi, and Soon-Duck Kwon; 130(11), 1356-64 (2004).

Lackner, Roman
Concrete Subjected to Triaxial Stress States: Application to Pull-Out Analyses. — Peter Pivonka, Roman Lackner, and Herbert A. Mang; 130(12), 1486-98 (2004).

Lade, Poul V.
Characterization of Failure in Cross-Anisotropic Soils. — Andrei V. Abelev and Poul V. Lade; 130(5), 599-606 (2004).

Lam, H. F.
Phase I IASC-ASCE Structural Health Monitoring Benchmark Problem Using Simulated Data. — E. A. Johnson, H. F. Lam, L. S. Katafygiotis, and J. L. Beck; 130(1), 3-15 (2004).
Application of a Statistical Model Updating Approach on Phase I of the IASC-ASCE Structural Health Monitoring Benchmark Study. — H. F. Lam, L. S. Katafygiotis, and N. C. Mickleborough; 130(1), 34-48 (2004).

Lancelot, Laurent
Instability and Static Liquefaction on Proportional Strain Paths for Sand at Low Stresses. — Laurent Lancelot, Isam Shahrour, and Marwan Al Mahmoud; 130(11), 1365-72 (T) (2004).

Lee, C. F.
Rigid Finite Element Method for Upper Bound Limit Analysis of Soil Slopes Subjected to Pore Water Pressure. — Jian Chen, Jian-Hua Yin, and C. F. Lee; 130(8), 886-93 (2004).

Lee, Dae Sung
Indentation of a Free-Falling Sharp Penetrometer into a Poroelastic Seabed. — Dae Sung Lee and Derek Elsworth; 130(2), 170-9 (2004).

Lee, Eun-Jin
Nonconforming Variable-Node Axisymmetric Solid Element. — Chang-Koon Choi and Eun-Jin Lee; 130(5), 578-88 (2004).

Lee, In-Won
Optimal Neurocontroller for Nonlinear Benchmark Structure. — Dong-Hyawn Kim, Seung-Nam Seo, and In-Won Lee; 130(4), 424-9 (2004).
Wave Propagation and Mode Localization in Simply Supported Multispan Beams with Couplers on Supports. — Dong-Ok Kim, Byoung-Wan Kim, Jong-Heon Lee, and In-Won Lee; 130(7), 747-52 (2004).

Lee, Jong-Heon
Wave Propagation and Mode Localization in Simply Supported Multispan Beams with Couplers on Supports. — Dong-Ok Kim, Byoung-Wan Kim, Jong-Heon Lee, and In-Won Lee; 130(7), 747-52 (2004).

Lee, Jong-Seh
Identification of the Soil–Structure Interaction System Using Earthquake Response Data. — Jun-Seong Choi, Jong-Seh Lee, and Chung-Bang Yun; 130(7), 753-61 (2004).

Lee, Joseph H. W.
Flow Variation of Duckbill Valve Jet in Relation to Large Elastic Deformation. — Joseph H. W. Lee, S. H. Lo, and K. L. Lee; 130(8), 971-81 (2004).

Lee, K. L.
Flow Variation of Duckbill Valve Jet in Relation to Large Elastic Deformation. — Joseph H. W. Lee, S. H. Lo, and K. L. Lee; 130(8), 971-81 (2004).

Lee, Sunghee
Recurrent Single Delaminated Beam Model for Vibration Analysis of Multidelaminated Beams. — Taehyo Park, Sunghee Lee, and George Z. Voyiadjis; 130(9), 1072-82 (2004).

Lei, Y.
Hilbert-Huang Based Approach for Structural Damage Detection. — J. N. Yang, Y. Lei, S. Lin, and N. Huang; 130(1), 85-95 (2004).

Lei, Ying
Identification of Natural Frequencies and Dampings of In Situ Tall Buildings Using Ambient Wind Vibration Data. — Jann N. Yang, Ying Lei, Silian Lin, and Norden Huang; 130(5), 570-7 (2004).

Leonenko, Y.
Engineering Model of Dilute Pneumatic Conveying. — D. Eskin, Y. Leonenko, and O. Vinogradov; 130(7), 794-9 (2004).

Leshchinsky, Dov
Analyzing Dynamic Behavior of Geosynthetic-Reinforced Soil Retaining Walls. — Hoe I. Ling, Huabei Liu, Victor N. Kaliakin, and Dov Leshchinsky; 130(8), 911-20 (2004).

Leutheusser, Hans J.
Experiments on Unsteady Turbulent Pipe Flow. — John P. Viola and Hans J. Leutheusser; 130(2), 240-4 (2004).

Li, Ning
Investigation of Bond between Fiber Reinforced Polymer and Concrete Undergoing Global Mixed Mode I/II Loading. — Baolin Wan, Michael A. Sutton, Michael F. Petrou, Kent A. Harries, and Ning Li; 130(12), 1467-75 (2004).

Li, Q. M.
Transition from Nondeformable Projectile Penetration to Semihydrodynamic Penetration. — X. W. Chen and Q. M. Li; 130(1), 123-7 (2004).

Li, Q. S.
Moving Least-Squares Differential Quadrature Method for Free Vibration of Antisymmetric Laminates. — Q. S. Li and Y. Q. Huang; 130(12), 1447-57 (2004).

Li, Xiang S.
Sand Plasticity Model Accounting for Inherent Fabric Anisotropy. — Yannis F. Dafalias, Achilleas G. Papadimitriou, and Xiang S. Li; 130(11), 1319-33 (2004).

Liaw, Chih Young
Least-Squares, Moment-Based, and Hybrid Polynomializations of Drag Forces. — Chih Young Liaw and Xiang Yuan Zheng; 130(3), 294-302 (2004).

Liberty, S. R.
Generalized Linear Quadratic Gaussian Techniques for the Wind Benchmark Problem. — K. D. Pham, G. Jin, M. K. Sain, B. F. Spencer, Jr., and S. R. Liberty; 130(4), 466-70 (2004).

Liew, K. M.
Postbuckling of Axially Loaded Functionally Graded Cylindrical Panels with Piezoelectric Actuators in Thermal Environments. — Hui-Shen Shen and K. M. Liew; 130(8), 982-95 (2004).

Likos, William J.
Hysteresis of Capillary Stress in Unsaturated Granular Soil. — William J. Likos and Ning Lu; 130(6), 646-55 (2004).

Lin, H.
Stochastic Analysis of a Single-Degree-of-Freedom Nonlinear Experimental Moored System Using an Independent-Flow-Field Model. — H. Lin and S. C. S. Yim; 130(2), 161-9 (2004).

Lin, Jian-San
Effects of Prescribed End Motion on the Dynamic Stability of a Shallow Arch on an Elastic Foundation. — Jen-San Chen and Jian-San Lin; 130(3), 359-62 (2004).

Lin, S.
Hilbert-Huang Based Approach for Structural Damage Detection. — J. N. Yang, Y. Lei, S. Lin, and N. Huang; 130(1), 85-95 (2004).

Lin, Silian
Linear Multiobjective Control Strategies for Wind-Excited Buildings. — Jann N. Yang, Silian Lin, and Faryar Jabbari; 130(4), 471-7 (2004).
Identification of Natural Frequencies and Dampings of In Situ Tall Buildings Using Ambient Wind Vibration Data. — Jann N. Yang, Ying Lei, Silian Lin, and Norden Huang; 130(5), 570-7 (2004).

Lin, Wane-Jang
Energy Balance Assessment of Base-Isolated Structures. — Mark A. Austin and Wane-Jang Lin; 130(3), 347-58 (2004).

Ling, Hoe I.
Analyzing Dynamic Behavior of Geosynthetic-Reinforced Soil Retaining Walls. — Hoe I. Ling, Huabei Liu, Victor N. Kaliakin, and Dov Leshchinsky; 130(8), 911-20 (2004).

Ling, Xiaolin
Element Level System Identification with Unknown Input with Rayleigh Damping. — Xiaolin Ling and Achintya Haldar; 130(8), 877-85 (2004).

Liu, Huabei
Analyzing Dynamic Behavior of Geosynthetic-Reinforced Soil Retaining Walls. — Hoe I. Ling, Huabei Liu, Victor N. Kaliakin, and Dov Leshchinsky; 130(8), 911-20 (2004).

Liu, Q. Q.
Fluid–Solid Interaction in Particle-Laden Flows. — Q. Q. Liu and V. P. Singh; 130(12), 1476-85 (2004).

Lo, S. H.
Flow Variation of Duckbill Valve Jet in Relation to Large Elastic Deformation. — Joseph H. W. Lee, S. H. Lo, and K. L. Lee; 130(8), 971-81 (2004).

Loh, Chin-Hsiung
Nonlinear System Identification of Reinforced Concrete Steel Structure: Using Pseudodynamic Testing Data. — Olga V. Pavlenko and Chin-Hsiung Loh; 130(7), 836-47 (2004).

Lombaert, Geert
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. I: Source Model. — Lincy Pyl, Geert Degrande, Geert Lombaert, and Wim Haegeman; 130(12), 1377-93 (2004).

Lu, Ning
Hysteresis of Capillary Stress in Unsaturated Granular Soil. — William J. Likos and Ning Lu; 130(6), 646-55 (2004).

Lu, Y. F.
Damage Modeling of Saturated Rocks in Drained and Undrained Conditions. — J. F. Shao, Y. F. Lu, and D. Lydzba; 130(6), 733-40 (2004).

Lu, Yong
Numerical Investigation of Effects of Water Saturation on Blast Wave Propagation in Soil Mass. — Zhongqi Wang, Yong Lu, and Hong Hao; 130(5), 551-61 (2004).

Luş, Hilmi
Investigation of a System Identification Methodology in the Context of the ASCE Benchmark Problem. — Hilmi Luş, Raimondo Betti, Jun Yu, and Maurizio De Angelis; 130(1), 71-84 (2004).
Identification of Structural Systems Using an Evolutionary Strategy. — Guillermo Franco, Raimondo Betti, and Hilmi Luş; 130(10), 1125-39 (2004).

Lydzba, D.
Description of Creep in Inherently Anisotropic Frictional Materials. — S. Pietruszczak, D. Lydzba, and J. F. Shao; 130(6), 681-90 (2004).
Damage Modeling of Saturated Rocks in Drained and Undrained Conditions. — J. F. Shao, Y. F. Lu, and D. Lydzba; 130(6), 733-40 (2004).

Ma, Tian-Wei
Adaptive Feedback–Feedforward Control of Building Structures. — Tian-Wei Ma and Henry T. Y. Yang; 130(7), 786-93 (2004).

MacBain, Keith
Exploring the Use of Three-Dimensional Dispersion to Damp Building Vibrations. — Keith MacBain and William R. Spillers; 130(3), 312-9 (2004).

Mack, A.
Vibration Control of the Wind-Excited 76-Story Benchmark Building by Liquid Column Vibration Absorbers. — B. Samali, E. Mayol, K. C. S. Kwok, A. Mack, and P. Hitchcock; 130(4), 478-85 (2004).

Makris, Nicos
Dimensional Analysis of Rigid-Plastic and Elastoplastic Structures under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1006-18 (2004).
Dimensional Analysis of Bilinear Oscillators under Pulse-Type Excitations. — Nicos Makris and Cameron J. Black; 130(9), 1019-31 (2004).
Evaluation of Peak Ground Velocity as a "Good" Intensity Measure for Near-Source Ground Motions. — Nicos Makris and Cameron J. Black; 130(9), 1032-44 (2004).

Mang, Herbert A.
Concrete Subjected to Triaxial Stress States: Application to Pull-Out Analyses. — Peter Pivonka, Roman Lackner, and Herbert A. Mang; 130(12), 1486-98 (2004).

Manzari, Majid T.
Constitutive Modeling of Geomaterials. — A. Rajah Anandarajah, Majid T. Manzari, and Victor N. Kaliakin; 130(6), 621 (2004).
Simple Plasticity Sand Model Accounting for Fabric Change Effects. — Yannis F. Dafalias and Majid T. Manzari; 130(6), 622-34 (2004).

Martinez, J.
Partitioned Distinct Element Method Simulation of Granular Flow within Industrial Silos. — D. R. Parisi, S. Masson, and J. Martinez; 130(7), 771-9 (2004).

Marwala, Tshilidzi
Fault Classification Using Pseudomodal Energies and Probabilistic Neural Networks. — Tshilidzi Marwala; 130(11), 1346-55 (2004).

Masson, S.
Partitioned Distinct Element Method Simulation of Granular Flow within Industrial Silos. — D. R. Parisi, S. Masson, and J. Martinez; 130(7), 771-9 (2004).

Mayol, E.
Vibration Control of the Wind-Excited 76-Story Benchmark Building by Liquid Column Vibration Absorbers. — B. Samali, E. Mayol, K. C. S. Kwok, A. Mack, and P. Hitchcock; 130(4), 478-85 (2004).

Mei, Gang
Model Predictive Control of Wind-Excited Building: Benchmark Study. — Gang Mei, Ahsan Kareem, and Jeffrey C. Kantor; 130(4), 459-65 (2004).

Mickleborough, N. C.
Application of a Statistical Model Updating Approach on Phase I of the IASC-ASCE Structural Health Monitoring Benchmark Study. — H. F. Lam, L. S. Katafygiotis, and N. C. Mickleborough; 130(1), 34-48 (2004).

Mochizuki, Tomoya
Stochastic Asset Pricing with Seismic Hazard Risk. — Masaru Hoshiya, Takaaki Nakamura, and Tomoya Mochizuki; 130(7), 780-5 (2004).

Muir Wood, David
Experimental Inspiration for Kinematic Hardening Soil Models. — David Muir Wood; 130(6), 656-64 (2004).

Muscolino, G.
Random Vibration of Systems with Viscoelastic Memory. — A. Palmeri, F. Ricciardelli, G. Muscolino, and A. De Luca; 130(9), 1052-61 (2004).
Stochastic Averaging of Preisach Hysteretic Systems. — P. D. Spanos, P. Cacciola, and G. Muscolino; 130(11), 1257-67 (2004).

Nagarajaiah, Satish
Wind Response Control of Building with Variable Stiffness Tuned Mass Damper Using Empirical Mode Decomposition/Hilbert Transform. — Nadathur Varadarajan and Satish Nagarajaiah; 130(4), 451-8 (2004).

Naghdy, Fazel
Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).
Active Control of Cross Wind Response of 76-Story Tall Building Using a Fuzzy Controller. — Bijan Samali, Mohammed Al-Dawod, Kenny C. S. Kwok, and Fazel Naghdy; 130(4), 492-8 (2004).

Naguleswaran, Sivapatham
Discussion of "Stability Criteria for Euler Columns with Intermediate and End Axial Loads" by C. M. Wang, C. Y. Wang, and I. M. Nazmul. — Sivapatham Naguleswaran; 130(10), 1255-6 (2004).

Nakamura, Takaaki
Stochastic Asset Pricing with Seismic Hazard Risk. — Masaru Hoshiya, Takaaki Nakamura, and Tomoya Mochizuki; 130(7), 780-5 (2004).

Nath, Y.
Thermal Postbuckling of Laminated Composite Plates with Temperature Dependent Properties. — K. K. Shukla, J. H. Huang, and Y. Nath; 130(7), 818-25 (2004).

Nazmul, I. M.
Closure to "Buckling of Columns with Intermediate Elastic Restraint" by C. M. Wang and I. M. Nazmul. — C. M. Wang and I. M. Nazmul; 130(2), 246 (2004).
Closure to "Stability Criteria for Euler Columns with Intermediate and End Axial Loads" by C. M. Wang, C. Y. Wang and I. M. Nazmul. — C. M. Wang, C. Y. Wang, and I. M. Nazmul; 130(10), 1256 (2004).

Ng, Tang-Tat
Triaxial Test Simulations with Discrete Element Method and Hydrostatic Boundaries. — Tang-Tat Ng; 130(10), 1188-94 (2004).

Niemann, Hans-Jürgen
Study on Sinusoidal Reference Strategy-Based Adaptive Feedforward Control Applied to Benchmark Wind-Excited Building. — Fujun Peng, Ming Gu, and Hans-Jürgen Niemann; 130(4), 518-23 (2004).

O'Daniel, James L.
Modeling Concrete Masonry Walls Subjected to Explosive Loads. — Christopher D. Eamon, James T. Baylot, and James L. O'Daniel; 130(9), 1098-106 (2004).

Ohtori, Y.
Benchmark Control Problems for Seismically Excited Nonlinear Buildings. — Y. Ohtori, R. E. Christenson, B. F. Spencer, Jr., and S. J. Dyke; 130(4), 366-85 (2004).

O'Sullivan, Catherine
Examination of the Response of Regularly Packed Specimens of Spherical Particles Using Physical Tests and Discrete Element Simulations. — Catherine O'Sullivan, Jonathan D. Bray, and Michael Riemer; 130(10), 1140-50 (2004).

Ottosen, Niels Saabye
Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).

Pak, Ronald Y. S.
Continuum Mechanics of Lateral Soil–Pile Interaction. — Farzad Abedzadeh and Ronald Y. S. Pak; 130(11), 1309-18 (2004).

Pala, Yaşar
Analytical Solution of Direct Dynamics Problem in Cylindrical Coordinates. — Yaşar Pala, İbrahim Güney, and Gültekin Karadere; 130(9), 1115-7 (2004).

Palmeri, A.
Random Vibration of Systems with Viscoelastic Memory. — A. Palmeri, F. Ricciardelli, G. Muscolino, and A. De Luca; 130(9), 1052-61 (2004).

Papadimitriou, Achilleas G.
Sand Plasticity Model Accounting for Inherent Fabric Anisotropy. — Yannis F. Dafalias, Achilleas G. Papadimitriou, and Xiang S. Li; 130(11), 1319-33 (2004).

Papadopoulos, Vissarion
Finite-Element Analysis of Cylindrical Panels with Random Initial Imperfections. — Vissarion Papadopoulos and Manolis Papadrakakis; 130(8), 867-76 (2004).

Papadrakakis, Manolis
Finite-Element Analysis of Cylindrical Panels with Random Initial Imperfections. — Vissarion Papadopoulos and Manolis Papadrakakis; 130(8), 867-76 (2004).

Parisi, D. R.
Partitioned Distinct Element Method Simulation of Granular Flow within Industrial Silos. — D. R. Parisi, S. Masson, and J. Martinez; 130(7), 771-9 (2004).

Park, Joonsang
Impulse Response of Elastic Half-Space in the Wave Number–Time Domain. — Joonsang Park and Eduardo Kausel; 130(10), 1211-22 (2004).

Park, Taehyo
Recurrent Single Delaminated Beam Model for Vibration Analysis of Multidelaminated Beams. — Taehyo Park, Sunghee Lee, and George Z. Voyiadjis; 130(9), 1072-82 (2004).

Patzák, Bořek
Adaptive Resolution of Localized Damage in Quasi-brittle Materials. — Bořek Patzák and Milan Jirásek; 130(6), 720-32 (2004).

Pavlenko, Olga V.
Nonlinear System Identification of Reinforced Concrete Steel Structure: Using Pseudodynamic Testing Data. — Olga V. Pavlenko and Chin-Hsiung Loh; 130(7), 836-47 (2004).

Pekau, O. A.
Time-Domain Boundary Element Method for Underground Structures in Orthotropic Media. — Zhang Chuhan, Ren Yuntao, O. A. Pekau, and Jin Feng; 130(1), 105-16 (2004).

Peng, Deh-Jun
Use of *M* Integral for Rubbery Material Problems Containing Multiple Defects. — Jui-Hung Chang and Deh-Jun Peng; 130(5), 589-98 (2004).

Peng, Fujun
Study on Sinusoidal Reference Strategy-Based Adaptive Feedforward Control Applied to Benchmark Wind-Excited Building. — Fujun Peng, Ming Gu, and Hans-Jürgen Niemann; 130(4), 518-23 (2004).

Petrou, Michael F.
Investigation of Bond between Fiber Reinforced Polymer and Concrete Undergoing Global Mixed Mode I/II Loading. — Baolin Wan, Michael A. Sutton, Michael F. Petrou, Kent A. Harries, and Ning Li; 130(12), 1467-75 (2004).

Pham, K. D.
Generalized Linear Quadratic Gaussian Techniques for the Wind Benchmark Problem. — K. D. Pham, G. Jin, M. K. Sain, B. F. Spencer, Jr., and S. R. Liberty; 130(4), 466-70 (2004).

Piau, Jean-Michel
Continuum Damage Approach to Asphalt Concrete Fatigue Modeling. — Didier Bodin, Gilles Pijaudier-Cabot, Chantal de La Roche, Jean-Michel Piau, and Armelle Chabot; 130(6), 700-8 (2004).

Pietruszczak, S.
Description of Creep in Inherently Anisotropic Frictional Materials. — S. Pietruszczak, D. Lydzba, and J. F. Shao; 130(6), 681-90 (2004).

Pijaudier-Cabot, Gilles
Continuum Damage Approach to Asphalt Concrete Fatigue Modeling. — Didier Bodin, Gilles Pijaudier-Cabot, Chantal de La Roche, Jean-Michel Piau, and Armelle Chabot; 130(6), 700-8 (2004).

Pivonka, Peter
Concrete Subjected to Triaxial Stress States: Application to Pull-Out Analyses. — Peter Pivonka, Roman Lackner, and Herbert A. Mang; 130(12), 1486-98 (2004).

Proença, Sergio P. B.
Probabilistic Approach to Predict Cracking in Lightly Reinforced Microconcrete Panels. — Ana Rita C. da Silva, Sergio P. B. Proença, René Billardon, and François Hild; 130(8), 931-41 (2004).

Prunty, Lyle
Energy Equation for Volatile Liquid Transport in Porous Media. — Lyle Prunty; 130(3), 259-66 (2004).

Pyl, Lincy
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. I: Source Model. — Lincy Pyl, Geert Degrande, Geert Lombaert, and Wim Haegeman; 130(12), 1377-93 (2004).
Validation of a Source–Receiver Model for Road Traffic-Induced Vibrations in Buildings. II: Receiver Model. — Lincy Pyl, Geert Degrande, and Didier Clouteau; 130(12), 1394-406 (2004).

Rabinovitch, O.
Delamination Effects in Reinforced Concrete Slabs Strengthened with Circular Composite Patches. — O. Rabinovitch and Y. Frostig; 130(12), 1436-46 (2004).

Rabinovitch, Oded
High-Order Analysis of Reinforced Concrete Slabs Strengthened with Circular Composite Laminated Patches of General Layup. — Oded Rabinovitch and Yeoshua Frostig; 130(11), 1334-45 (2004).

Rajaratnam, N.
Plane Turbulent Wall Jets on Rough Boundaries with Limited Tailwater. — S. A. Ead and N. Rajaratnam; 130(10), 1245-50 (2004).

Ramaswamy, A.
Multiobjective Optimal Fuzzy Logic Controller Driven Active and Hybrid Control Systems for Seismically Excited Nonlinear Buildings. — A. S. Ahlawat and A. Ramaswamy; 130(4), 416-23 (2004).
Multiobjective Optimal Fuzzy Logic Control System for Response Control of Wind-Excited Tall Buildings. — A. S. Ahlawat and A. Ramaswamy; 130(4), 524-30 (2004).

Rao, M. K.
Natural Vibrations of Laminated and Sandwich Plates. — M. K. Rao, K. Scherbatiuk, Y. M. Desai, and A. H. Shah; 130(11), 1268-78 (2004).

Ricciardelli, F.
Random Vibration of Systems with Viscoelastic Memory. — A. Palmeri, F. Ricciardelli, G. Muscolino, and A. De Luca; 130(9), 1052-61 (2004).

Riemer, Michael
Examination of the Response of Regularly Packed Specimens of Spherical Particles Using Physical Tests and Discrete Element Simulations. — Catherine O'Sullivan, Jonathan D. Bray, and Michael Riemer; 130(10), 1140-50 (2004).

Ristinmaa, Matti
Theoretical Interpretation of Impulse Response Tests of Embedded Concrete Structures. — Niels Saabye Ottosen, Matti Ristinmaa, and Allen G. Davis; 130(9), 1062-71 (2004).

Rodriguez, Ramses
Damage Detection Utilizing the Damage Index Method to a Benchmark Structure. — Luciana R. Barroso and Ramses Rodriguez; 130(2), 142-51 (2004).

Roschke, Paul N.
Robust Control for Structural Systems with Unstructured Uncertainties. — Sheng-Guo Wang, Paul N. Roschke, and H. Y. Yeh; 130(3), 337-46 (2004).

Royer-Carfagni, G. F.
Separation of Scales in Fracture Mechanics: From Molecular to Continuum Theory via Γ Convergence. — M. S. Gelli and G. F. Royer-Carfagni; 130(2), 204-15 (2004).

Rubin, M. B.
Buckling of Elastic Shallow Arches Using the Theory of a Cosserat Point. — M. B. Rubin; 130(2), 216-24 (2004).

Sadek, Fahim
Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).

Sain, M. K.
Generalized Linear Quadratic Gaussian Techniques for the Wind Benchmark Problem. — K. D. Pham, G. Jin, M. K. Sain, B. F. Spencer, Jr., and S. R. Liberty; 130(4), 466-70 (2004).

Saito, Tomoo
Control Effect for 20-Story Benchmark Building Using Passive or Semiactive Device. — Akira Fukukita, Tomoo Saito, and Keiji Shiba; 130(4), 430-6 (2004).

Samali, B.
Wind Tunnel Tests for Wind-Excited Benchmark Building. — B. Samali, K. C. S. Kwok, G. S. Wood, and J. N. Yang; 130(4), 447-50 (2004).
Vibration Control of the Wind-Excited 76-Story Benchmark Building by Liquid Column Vibration Absorbers. — B. Samali, E. Mayol, K. C. S. Kwok, A. Mack, and P. Hitchcock; 130(4), 478-85 (2004).

Samali, Bijan
Fuzzy Controller for Seismically Excited Nonlinear Buildings. — Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, and Fazel Naghdy; 130(4), 407-15 (2004).
Benchmark Problem for Response Control of Wind-Excited Tall Buildings. — Jann N. Yang, Anil K. Agrawal, Bijan Samali, and Jong-Cheng Wu; 130(4), 437-46 (2004).
Active Control of Cross Wind Response of 76-Story Tall Building Using a Fuzzy Controller. — Bijan Samali, Mohammed Al-Dawod, Kenny C. S. Kwok, and Fazel Naghdy; 130(4), 492-8 (2004).

Scherbatiuk, K.
Natural Vibrations of Laminated and Sandwich Plates. — M. K. Rao, K. Scherbatiuk, Y. M. Desai, and A. H. Shah; 130(11), 1268-78 (2004).

Seo, Seung-Nam
Optimal Neurocontroller for Nonlinear Benchmark Structure. — Dong-Hyawn Kim, Seung-Nam Seo, and In-Won Lee; 130(4), 424-9 (2004).

Seshadri, R.
Identification of Cracking in Beam Structures Using Timoshenko and Euler Formulations. — A. S. J. Swamidas, X. Yang, and R. Seshadri; 130(11), 1297-308 (2004).

Shah, A. H.
Natural Vibrations of Laminated and Sandwich Plates. — M. K. Rao, K. Scherbatiuk, Y. M. Desai, and A. H. Shah; 130(11), 1268-78 (2004).

Shahrour, Isam
Instability and Static Liquefaction on Proportional Strain Paths for Sand at Low Stresses. — Laurent Lancelot, Isam Shahrour, and Marwan Al Mahmoud; 130(11), 1365-72 (T) (2004).

Shao, J. F.
Description of Creep in Inherently Anisotropic Frictional Materials. — S. Pietruszczak, D. Lydzba, and J. F. Shao; 130(6), 681-90 (2004).
Damage Modeling of Saturated Rocks in Drained and Undrained Conditions. — J. F. Shao, Y. F. Lu, and D. Lydzba; 130(6), 733-40 (2004).

Sharan, Shailendra K.
Dynamic Analysis of a Gate–Fluid System. — Farhang Daneshmand, Shailendra K. Sharan, and Mohammad H. Kadivar; 130(12), 1458-66 (2004).

Sharp, Michael K.
Earth Dam on Liquefiable Foundation and Remediation: Numerical Simulation of Centrifuge Experiments. — Zhaohui Yang, Ahmed Elgamal, Korhan Adalier, and Michael K. Sharp; 130(10), 1168-76 (2004).

Shen, Hui-Shen
Postbuckling of Axially Loaded Functionally Graded Cylindrical Panels with Piezoelectric Actuators in Thermal Environments. — Hui-Shen Shen and K. M. Liew; 130(8), 982-95 (2004).

Shiau, Le-Chung
Thermal Postbuckling Behavior of Composite Sandwich Plates. — Le-Chung Shiau and Shih-Yao Kuo; 130(10), 1160-7 (2004).

Shiba, Keiji
Control Effect for 20-Story Benchmark Building Using Passive or Semiactive Device. — Akira Fukukita, Tomoo Saito, and Keiji Shiba; 130(4), 430-6 (2004).

Shinozuka, Masanobu
Geometrically Nonlinear Buffeting Response of a Cable-Stayed Bridge. — Ho-Kyung Kim, Masanobu Shinozuka, and Sung-Pil Chang; 130(7), 848-57 (2004).

Shukla, K. K.
Thermal Postbuckling of Laminated Composite Plates with Temperature Dependent Properties. — K. K. Shukla, J. H. Huang, and Y. Nath; 130(7), 818-25 (2004).

Simiu, Emil
Sampling Errors in the Estimation of Peak Wind-Induced Internal Forces in Low-Rise Structures. — Fahim Sadek, Sofia Diniz, Michael Kasperski, Massimiliano Gioffrè, and Emil Simiu; 130(2), 235-9 (2004).

Singh, V. P.
Fluid–Solid Interaction in Particle-Laden Flows. — Q. Q. Liu and V. P. Singh; 130(12), 1476-85 (2004).

Sitar, Nicholas
Time Integration in Discontinuous Deformation Analysis. — David M. Doolin and Nicholas Sitar; 130(3), 249-58 (2004).

Spanos, P. D.
Stochastic Averaging of Preisach Hysteretic Systems. — P. D. Spanos, P. Cacciola, and G. Muscolino; 130(11), 1257-67 (2004).

Spanos, Pol D.
Evolutionary Spectra Estimation Using Wavelets. — Pol D. Spanos and Giuseppe Failla; 130(8), 952-60 (2004).

Spencer, B. F., Jr.
Benchmark Structural Control Problems for Seismic- and Wind-Excited Structures. — B. F. Spencer, Jr.; 130(4), 363-5 (2004).
Benchmark Control Problems for Seismically Excited Nonlinear Buildings. — Y. Ohtori, R. E. Christenson, B. F. Spencer, Jr., and S. J. Dyke; 130(4), 366-85 (2004).
Generalized Linear Quadratic Gaussian Techniques for the Wind Benchmark Problem. — K. D. Pham, G. Jin, M. K. Sain, B. F. Spencer, Jr., and S. R. Liberty; 130(4), 466-70 (2004).
Vibration Control of Wind-Excited Tall Buildings Using Sliding Mode Fuzzy Control. — Saang Bum Kim, Chung-Bang Yun, and B. F. Spencer, Jr.; 130(4), 505-10 (2004).

Spencer, Billie F., Jr.
Dynamic Modeling of Large-Scale Magnetorheological Damper Systems for Civil Engineering Applications. — Guangqiang Yang, Billie F. Spencer, Jr., Hyung-Jo Jung, and J. David Carlson; 130(9), 1107-14 (2004).

Spillers, William R.
Exploring the Use of Three-Dimensional Dispersion to Damp Building Vibrations. — Keith MacBain and William R. Spillers; 130(3), 312-9 (2004).

Stolarski, Adam
Dynamic Strength Criterion for Concrete. — Adam Stolarski; 130(12), 1428-35 (2004).

Sture, Stein
Numerical Assessment of the Influence of End Conditions on Constitutive Behavior of Geomaterials. — Boris Jeremić, Zhaohui Yang, and Stein Sture; 130(6), 741-5 (2004).

Suiker, Akke S. J.
Modeling Failure and Deformation of an Assembly of Spheres with Frictional Contacts. — Akke S. J. Suiker and Ching S. Chang; 130(3), 283-93 (2004).

Sutton, Michael A.
Investigation of Bond between Fiber Reinforced Polymer and Concrete Undergoing Global Mixed Mode I/II Loading. — Baolin Wan, Michael A. Sutton, Michael F. Petrou, Kent A. Harries, and Ning Li; 130(12), 1467-75 (2004).

Swamidas, A. S. J.
Identification of Cracking in Beam Structures Using Timoshenko and Euler Formulations. — A. S. J. Swamidas, X. Yang, and R. Seshadri; 130(11), 1297-308 (2004).

Symans, M. D.
Application of a Genetic Algorithm for Optimal Damper Distribution within the Nonlinear Seismic Benchmark Building. — N. Wongprasert and M. D. Symans; 130(4), 401-6 (2004).

Tsai, Christina W.
Shallow Water Wave Propagation in Convectively Accelerating Open-Channel Flow Induced by the Tailwater Effect. — Christina W. Tsai and Ben C. Yen; 130(3), 320-36 (2004).

Tseng, Kevin K.
Modeling and Simulation of Porous Elastoviscoplastic Material. — Kevin K. Tseng; 130(5), 547-50 (2004).

van Zijl, Gideon P. A. G.
Modeling Masonry Shear-Compression: Role of Dilatancy Highlighted. — Gideon P. A. G. van Zijl; 130(11), 1289-96 (2004).

Varadarajan, Nadathur
Wind Response Control of Building with Variable Stiffness Tuned Mass Damper Using Empirical Mode Decomposition/Hilbert Transform. — Nadathur Varadarajan and Satish Nagarajaiah; 130(4), 451-8 (2004).

Vinogradov, O.
Engineering Model of Dilute Pneumatic Conveying. — D. Eskin, Y. Leonenko, and O. Vinogradov; 130(7), 794-9 (2004).

Viola, John P.
Experiments on Unsteady Turbulent Pipe Flow. — John P. Viola and Hans J. Leutheusser; 130(2), 240-4 (2004).

Voyiadjis, George Z.
Recurrent Single Delaminated Beam Model for Vibration Analysis of Multidelaminated Beams. — Taehyo Park, Sunghee Lee, and George Z. Voyiadjis; 130(9), 1072-82 (2004).

Wan, Baolin
Investigation of Bond between Fiber Reinforced Polymer and Concrete Undergoing Global Mixed Mode I/II Loading. — Baolin Wan, Michael A. Sutton, Michael F. Petrou, Kent A. Harries, and Ning Li; 130(12), 1467-75 (2004).

Wan, Richard G.
Stress Dilatancy and Fabric Dependencies on Sand Behavior. — Richard G. Wan and Pei J. Guo; 130(6), 635-45 (2004).

Wang, C. M.
Plastic Buckling of Simply Supported, Polygonal Mindlin Plates. — C. M. Wang; 130(1), 117-22 (2004).
Closure to "Buckling of Columns with Intermediate Elastic Restraint" by C. M. Wang and I. M. Nazmul. — C. M. Wang and I. M. Nazmul; 130(2), 246 (2004).
Closure to "Stability Criteria for Euler Columns with Intermediate and End Axial Loads" by C. M. Wang, C. Y. Wang and I. M. Nazmul. — C. M. Wang, C. Y. Wang, and I. M. Nazmul; 130(10), 1256 (2004).
Buckling of a Weakened Column. — C. Y. Wang, C. M. Wang, and Tun Myint Aung; 130(11), 1373-6 (2004).

Wang, C. Y.
Closure to "Effect of Base Fixity on Buckling of Heavy Column with End Load" by C. Y. Wang. — C. Y. Wang; 130(2), 248 (2004).
Closure to "Stability Criteria for Euler Columns with Intermediate and End Axial Loads" by C. M. Wang, C. Y. Wang and I. M. Nazmul. — C. M. Wang, C. Y. Wang, and I. M. Nazmul; 130(10), 1256 (2004).
Buckling of a Weakened Column. — C. Y. Wang, C. M. Wang, and Tun Myint Aung; 130(11), 1373-6 (2004).

Wang, Sheng-Guo
Robust Control for Structural Systems with Unstructured Uncertainties. — Sheng-Guo Wang, Paul N. Roschke, and H. Y. Yeh; 130(3), 337-46 (2004).
Linear Quadratic Gaussian-Alpha Control with Relative Stability and Gain Parameter for the Structural Benchmark Problems. — Sheng-Guo Wang; 130(4), 511-7 (2004).

Wang, Zhongqi
Numerical Investigation of Effects of Water Saturation on Blast Wave Propagation in Soil Mass. — Zhongqi Wang, Yong Lu, and Hong Hao; 130(5), 551-61 (2004).

Watanabe, Hiroshi
Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).

Wen, Y. K.
Description and Simulation of Nonstationary Processes Based on Hilbert Spectra. — Y. K. Wen and Ping Gu; 130(8), 942-51 (2004).

Wongprasert, N.
Application of a Genetic Algorithm for Optimal Damper Distribution within the Nonlinear Seismic Benchmark Building. — N. Wongprasert and M. D. Symans; 130(4), 401-6 (2004).

Wood, G. S.
Wind Tunnel Tests for Wind-Excited Benchmark Building. — B. Samali, K. C. S. Kwok, G. S. Wood, and J. N. Yang; 130(4), 447-50 (2004).

Wu, Jong-Cheng
Benchmark Problem for Response Control of Wind-Excited Tall Buildings. — Jann N. Yang, Anil K. Agrawal, Bijan Samali, and Jong-Cheng Wu; 130(4), 437-46 (2004).
Modified Sliding Mode Control for Wind-Excited Benchmark Problem. — Jong-Cheng Wu and Jann N. Yang; 130(4), 499-504 (2004).

Xu, Y. L.
Structural Damage Detection Using Empirical Mode Decomposition: Experimental Investigation. — Y. L. Xu and J. Chen; 130(11), 1279-88 (2004).

Yang, Guangqiang
Dynamic Modeling of Large-Scale Magnetorheological Damper Systems for Civil Engineering Applications. — Guangqiang Yang, Billie F. Spencer, Jr., Hyung-Jo Jung, and J. David Carlson; 130(9), 1107-14 (2004).

Yang, Henry T. Y.
Adaptive Feedback–Feedforward Control of Building Structures. — Tian-Wei Ma and Henry T. Y. Yang; 130(7), 786-93 (2004).

Yang, J. N.
Hilbert-Huang Based Approach for Structural Damage Detection. — J. N. Yang, Y. Lei, S. Lin, and N. Huang; 130(1), 85-95 (2004).
Wind Tunnel Tests for Wind-Excited Benchmark Building. — B. Samali, K. C. S. Kwok, G. S. Wood, and J. N. Yang; 130(4), 447-50 (2004).

Yang, Jann N.
Benchmark Problem for Response Control of Wind-Excited Tall Buildings. — Jann N. Yang, Anil K. Agrawal, Bijan Samali, and Jong-Cheng Wu; 130(4), 437-46 (2004).
Linear Multiobjective Control Strategies for Wind-Excited Buildings. — Jann N. Yang, Silian Lin, and Faryar Jabbari; 130(4), 471-7 (2004).
Modified Sliding Mode Control for Wind-Excited Benchmark Problem. — Jong-Cheng Wu and Jann N. Yang; 130(4), 499-504 (2004).
Identification of Natural Frequencies and Dampings of In Situ Tall Buildings Using Ambient Wind Vibration Data. — Jann N. Yang, Ying Lei, Silian Lin, and Norden Huang; 130(5), 570-7 (2004).

Yang, X.
Identification of Cracking in Beam Structures Using Timoshenko and Euler Formulations. — A. S. J. Swamidas, X. Yang, and R. Seshadri; 130(11), 1297-308 (2004).

Yang, Xiao-Li
Slope Stability Analysis with Nonlinear Failure Criterion. — Xiao-Li Yang and Jian-Hua Yin; 130(3), 267-73 (2004).

Yang, Zhaohui
Numerical Assessment of the Influence of End Conditions on Constitutive Behavior of Geomaterials. — Boris Jeremić, Zhaohui Yang, and Stein Sture; 130(6), 741-5 (2004).
Earth Dam on Liquefiable Foundation and Remediation: Numerical Simulation of Centrifuge Experiments. — Zhaohui Yang, Ahmed Elgamal, Korhan Adalier, and Michael K. Sharp; 130(10), 1168-76 (2004).

Yeh, H. Y.
Robust Control for Structural Systems with Unstructured Uncertainties. — Sheng-Guo Wang, Paul N. Roschke, and H. Y. Yeh; 130(3), 337-46 (2004).

Yen, Ben C.
Shallow Water Wave Propagation in Convectively Accelerating Open-Channel Flow Induced by the Tailwater Effect. — Christina W. Tsai and Ben C. Yen; 130(3), 320-36 (2004).

Yi, Jin-Hak
Baseline Models for Bridge Performance Monitoring. — Maria Q. Feng, Doo Kie Kim, Jin-Hak Yi, and Yangbo Chen; 130(5), 562-9 (2004).

Yıldırım, Nevzat
Critical Submergence for a Rectangular Intake. — Nevzat Yıldırım; 130(10), 1195-210 (2004).

Yim, S. C. S.
Stochastic Analysis of a Single-Degree-of-Freedom Nonlinear Experimental Moored System Using an Independent-Flow-Field Model. — H. Lin and S. C. S. Yim; 130(2), 161-9 (2004).

Yin, Jian-Hua
Slope Stability Analysis with Nonlinear Failure Criterion. — Xiao-Li Yang and Jian-Hua Yin; 130(3), 267-73 (2004).
Rigid Finite Element Method for Upper Bound Limit Analysis of Soil Slopes Subjected to Pore Water Pressure. — Jian Chen, Jian-Hua Yin, and C. F. Lee; 130(8), 886-93 (2004).

Yin, Shengjun
Degradation and Buckling of I-Beams under Cyclic Pure Bending. — Shengjun Yin, Edmundo Corona, and Mark S. Ellison; 130(7), 809-17 (2004).

Yoshida, Junji
Constitutive Model of High-Damping Rubber Materials. — Junji Yoshida, Masato Abe, and Yozo Fujino; 130(2), 129-41 (2004).
Three-Dimensional Finite-Element Analysis of High Damping Rubber Bearings. — Junji Yoshida, Masato Abe, Yozo Fujino, and Hiroshi Watanabe; 130(5), 607-20 (2004).

Yoshida, Osamu
Seismic Control of a Nonlinear Benchmark Building Using Smart Dampers. — Osamu Yoshida and Shirley J. Dyke; 130(4), 386-92 (2004).

Yu, Jun
Investigation of a System Identification Methodology in the Context of the ASCE Benchmark Problem. — Hilmi Luş, Raimondo Betti, Jun Yu, and Maurizio De Angelis; 130(1), 71-84 (2004).

Yu, T. X.
Use of High-Efficiency Energy Absorbing Device to Arrest Progressive Collapse of Tall Building. — Qing Zhou and T. X. Yu; 130(10), 1177-87 (2004).

Yu, Wenbin
Asymptotic Approach for Thermoelastic Analysis of Laminated Composite Plates. — Wenbin Yu and Dewey H. Hodges; 130(5), 531-40 (2004).

Yuen, Ka-Veng
Two-Stage Structural Health Monitoring Approach for Phase I Benchmark Studies. — Ka-Veng Yuen, Siu Kui Au, and James L. Beck; 130(1), 16-33 (2004).
Model Selection Using Response Measurements: Bayesian Probabilistic Approach. — James L. Beck and Ka-Veng Yuen; 130(2), 192-203 (2004).

Yun, Chung-Bang
Vibration Control of Wind-Excited Tall Buildings Using Sliding Mode Fuzzy Control. — Saang Bum Kim, Chung-Bang Yun, and B. F. Spencer, Jr.; 130(4), 505-10 (2004).
Identification of the Soil–Structure Interaction System Using Earthquake Response Data. — Jun-Seong Choi, Jong-Seh Lee, and Chung-Bang Yun; 130(7), 753-61 (2004).

Yuntao, Ren
Time-Domain Boundary Element Method for Underground Structures in Orthotropic Media. — Zhang Chuhan, Ren Yuntao, O. A. Pekau, and Jin Feng; 130(1), 105-16 (2004).

Zanke, Ulrich C. E.
Sediment Threshold with Upward Seepage. — Subhasish Dey and Ulrich C. E. Zanke; 130(9), 1118-23 (2004).

Zheng, Xiang Yuan
Least-Squares, Moment-Based, and Hybrid Polynomializations of Drag Forces. — Chih Young Liaw and Xiang Yuan Zheng; 130(3), 294-302 (2004).

Zhou, Qing
Use of High-Efficiency Energy Absorbing Device to Arrest Progressive Collapse of Tall Building. — Qing Zhou and T. X. Yu; 130(10), 1177-87 (2004).